SOCIAL ANXIETY AND COGNITION: THE SELF-PERCEPTIONS OF SOCIALLY ANXIOUS CHILDREN ON TASKS OF COGNITIVE ABILITIES

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I would like to extend my appreciation to the students and to the faculty of the six primary schools who willingly participated in this study.

Tables and Figures

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Abbreviations

CASQ	Children's Attribution Styles Questionnaire
CNCEQ	Children's Negative Cognitive Error Questionnaire
DSM-III-R	Diagnostic and Statistical Manual of Mental Disorders (Third Edition-Revised)
SIRS	Social Interaction Rating Scale
SISST	Social Interaction Self-Statement Test
SPAI	Social Phobia and Anxiety Inventory

Abstract

Beck, and other researchers have postulated that anxious individuals have cognitions that overemphasize negative information, thereby maintaining and/or increasing anxious mood. Self-perceptions of cognitive abilities were examined in fifty-one primary school children in Standards 3 and 4. On the basis of scores on the Social Phobia and Anxiety Inventory (SPAI), 55% of the participants were classified as socially anxious and 45% were classified as non-socially anxious. After completing two cognitive performance tasks, a mathematics test and an impromptu speech, participants self-perceptions of themselves and their cognitive abilities were evaluated. The results showed that cognitive distortions in cognitive information-processing as described by Beck and previously addressed in relation to depression, were also observed in socially anxious children. In addition, socially anxious children were more likely than non-socially anxious children to have negative expectations for their social performance and compare themselves unfavourably with others. The results supported the overly negative self-evaluations of socially anxious children, while the self-evaluations of the non-socially anxious children were more positive. Socially anxious children also made more negative self-statements and negative attributions to explain the outcome of negative events. The findings of the present study are discussed in reference to previous theories and research. Suggestions are also offered for future research directions.

Introduction

Anxiety is a common emotion affecting people of both genders, all ages, and all walks of life. Being interviewed for a much-wanted job, giving a speech or performance before an audience, competing in a sporting play-off, dating someone for the first time, or simply walking into a roomful of strangers can make almost anyone feel anxious. Everyone at one time or another experiences some form of anxiety. No one is immune to anxiety, but not everyone is debilitated by its effects. The difference between those who use anxiety as an asset and those who regard their anxiety to be a liability exists in the way people perceive feelings of anxiety and their ability, or inability to cope with it.

Since the mid-1980's considerable research has been conducted examining the various cognitive components of social anxiety. Social anxiety is characterised by feelings of self-consciousness, apprehension and emotional discomfort when anticipating or engaged in social-evaluative situations. The socially anxious person believes he or she is under the scrutiny of others and consequently, has a fear of negative evaluation by others. As a result, the socially anxious person fears that he or she will be found to be foolish or inadequate in some way. A high likelihood of negative expectations regarding their ability to interact with others contributes to heighten physiological arousal when in social situations.

Consequently, a number of cognitive theories of social anxiety have been postulated, and the cognitive model that is the forerunner of the investigation is that proposed by Beck, Emery, and Greenberg (1985). Beck et al.'s cognitive information-processing theory of anxiety is considered to be one of the most complete accounts of cognitive processing in emotional disorders (Wells, 1992). In addition, Beck et al.'s theory focuses on the cognitive component of anxiety which appears to be the primary factor of, and unique to the social anxiety construct. Several authors have suggested that cognitive factors play a particularly important role in social anxiety (Arkin, Appelman, & Burger, 1980; Johnson, Johnson, & Petzel, 1992; Smith, Ingram & Brehm, 1983). The common ingredient of social anxiety is an excess of self-centred cognitive and perceptual operations. In

addition to the behavioural and physiological components of social anxiety, the cognitive component of social anxiety involves personal beliefs, assumptions, and expectations about how the environment works and one's role in the environment. Everyone thinks about their capabilities in relation to different situations and may have doubts about whether they will succeed. The socially anxious person seems to become overly preoccupied with these self-evaluative thoughts and can become self-defeating if the individual does not possess the means to handle the situation. This anxious self-awareness can have detrimental effects by arousing emotions that interfere with the perception and appraisal of events, and of the reactions of others.

No other studies to date have specifically investigated the relationship between social anxiety, biased information-processing, and cognitions in children. Of particular interest to the present study is the relationship between social anxiety and biased information-processing. Moreover, the relationship between distorted information-processing and self-defeating cognitions is also of concern to the current study. From this, several assumptions from Beck's theory can be drawn and inferences concerning the self-perceptions of socially anxious children can be made.

The introduction is presented in 4 sections. Section 1 briefly explores the concept of social anxiety and its related constructs such as distinctions from other anxiety disorders, prevalence, age of onset, and gender differences. Section 2 looks briefly at the development of Beck's cognitive theory of depression and more extensively, his theory of anxiety. The main purpose here is to outline the cognitive information-processing theory as it is related to social anxiety, and to review a number of relevant studies. Flaws and weaknesses of the theory are also reviewed. Section 3 examines developmental factors in childhood and their relevance for social anxiety. This section also details a number of studies conducted in this area. Finally, section 4 outlines the design features and predictions of the present study.

1. Social Anxiety: What is it?

Anxiety and fear are significant biological characteristics that help to ensure the survival of the human being. Such emotions are believed to be reactions to real or perceived threatening situations or objects. As a result, they organise our psychobiological reserves to defend, escape, or avoid the approaching danger or threat to oneself.

The concept of social anxiety has been identified in the literature to include a varied cluster of characteristics. These attributes may be reflected in terms of severity with social phobia representing the more clinical and acute end of the continuum, versus shyness and communication apprehension which may not qualify as a distinct clinical disorder. In addition, these characteristics may also be represented as different categories with several subtypes (Schlenker & Leary, 1982).

Social anxiety has habitually been categorised as an adult disorder and the prevalence of this condition is predominantly based on research with adults. Beidel, Turner, and Dancu, (1985) estimated that approximately 20-41% of the population experience some degree of performance anxiety or distress when interacting in social situations or performing in public. This is consistent with Zimbardo (1977) who also estimated 40% of North Americans experience intense discomfort in social situations causing them to avoid these social situations and other similar encounters whenever possible. Although social anxiety can develop at any age, empirical evidence has documented a range from as young as age 8, (Beidel & Turner, 1988) up to 20 years of age (Amies, Gelder, & Shaw 1983; Liebowitz, Gorman, Fyer, & Klein, 1985; Marks, 1970). At times, the severity of this discomfort forces many of these individuals to avoid social interactions. Furthermore, the inability to adapt to these social surroundings may be reflected in lack of career advancement, inability to develop meaningful relationships, or inferior academic performance.

Social anxiety involves a critical awareness of the self as an object of examination to others. Certain social situations share the common ingredient of potential social disapproval as each individual's performance can be readily observed and evaluated by others. Generally, these situations are not a problem for most individuals, and some may

even go as far as to say that the associated arousal experienced in these conditions is beneficial to their performance. For the socially anxious individual, however, the anxiety experienced is overwhelming and can become a significant source of discomfort and distress. The difference between the reactions of non-socially anxious individuals and the reactions of socially anxious individuals in social situations involves concerns with how they are being perceived and evaluated by other people. Put another way, social anxiety appears to occur when people are concerned about the impressions others are forming of them (Schlenker & Leary, 1982). Because others' perceptions and evaluations have important implications for people's actions and outcomes in life, real or imagined evaluation by others can elicit social anxiety.

Social anxiety is truly a social phenomenon. By definition, social anxiety is linked with the presence of other people. The focus of the social anxiety reaction is based on face-to-face or interpersonal encounters and it should be noted that feelings of social anxiety often are experienced with anticipating or imagining social interactions (Leary, 1986). Social anxiety is unique in that it not only is a central feature of many abnormal psychological conditions, it also infiltrates the ordinary experiences of human behaviour (e.g., avoid talking in public, eating in public, using public conveniences). Thus, at the very heart of social anxiety is the primary fear of negative evaluation or scrutiny of the social self by others, (DSM-III-R: American Psychological Association, 1987) regardless if this is actually true or not. Fear of negative evaluation is a powerful stabilizing force in a hierarchical social organisation (Trower, Gilbert, & Sherling, 1990). The literature on conformity demonstrates that almost everybody will go to extraordinary lengths to obey social rules (e.g., Milgram 1965). Many employ these rules and conventions as standards by which they evaluate and generate their own social behaviour. These social rules, and in particular status-defining rules, have an extreme influence on the behaviour of the socially anxious individual. This evaluation encourages feelings of apprehension, self-consciousness, and general emotional distress. By and large, individuals with social anxiety fear that scrutiny will prove embarrassing, humiliating, and shameful, causing them to look foolish in some way. The person fears that he or she will be found to be defective or incompetent by others and therefore will be rejected. Consequently, the individual is perceived to have an irrational fear of,

and a compelling desire to avoid such situations. It must be emphasised that social anxiety is not always irrational, nor maladaptive. It is assumed by others that the beliefs socially anxious individuals have about themselves and others are irrational. These beliefs, however, are not perceived by socially anxious individuals as irrational, but are regarded as being rational, reflecting reality, and valid interpretations of reason.

Thus, it is in this context that one can understand the development of the social self by means of presenting oneself in a favourable light or, by means of self-presentation (Schlenker & Leary, 1982). Schlenker and Leary (1982) suggest that anxiety occurs when individuals want to make a favourable impression but doubt that they will do so. According to socially anxious individuals, the purpose of self-presentation is to avoid negative self-evaluation and the loss of status and self-esteem it creates.

Although social anxiety is primarily an adult disorder, it seems possible that children may also experience extreme forms of evaluation-anxiety and inhibition in social situations. This is because children, like adults, are also exposed to the evaluation and scrutiny of significant others such as parents, relatives, teachers, and peers. There is no doubt that some children experience symptoms of shyness and some may even experience speech, performance, or test anxiety. Depending on their cognitive capabilities, children can also make inferences regarding how one may appear in others' eyes, make social comparisons, and thus draw conclusions as to their self-concept. As a consequence, this study attempts to trace the associated symptoms and effects of social anxiety in childhood.

A number of researchers (Schlenker, & Leary, 1982; Watson & Friend, 1969; Zimbardo, 1977) have postulated that social anxiety is represented by intense physiological arousal when in social situations, extreme self-consciousness, a fear of negative evaluation or scrutiny by others, negative evaluations or expectations regarding their performance and their ability to interact with others, and in some instances, avoidance of the social situation itself. In its extreme form, social anxiety is a behaviour disorder known as social phobia. DSM-III-R (American Psychiatric Association, 1987) defines social phobia as an anxiety disorder in which the principal ingredient is a "persistent fear of one or more situations in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be humiliating or embarrassing" (p. 351-353). Extreme overconcern with

negative evaluation causes the socially anxious individual to become self-focused with how he or she may appear to others. Understandably this is likely to impair performance with the result that such fears become self-fulfilling, a vicious circle being the likely result. It appears that the clinically severe form of social anxiety, social phobia is more pervasive and significant than is generally recognized. Available epidemiological data suggests that this disorder has approximately 2% prevalence in the general population (Robins, Helxer, Weissman, Orvaschel, Gruenberg, Burke, & Regier, 1984). Determining an accurate estimate of the prevalence of social phobia and phobias in general in children is difficult due to the various methodological assessments used. A New Zealand study (Anderson, Williams, McGee, & Silva, 1987), which investigated the prevalence of DSM-III (American Psychiatric Association, 1980) disorders in a sample of preadolescents, identified social phobia in 0.9% of the sample. DSM-III-R lists the age of onset as late childhood to early adolescence, a characteristically earlier age of onset than for other anxiety disorders.

Social anxiety is a primary disorder in itself, but in many instances it is assigned as a secondary disorder. Still in other cases, it is unclear as to what the primary condition is if the coexisting condition is panic disorder, or panic disorder with agoraphobia (Turner & Beidel, 1989). Social anxiety can be found among all of the anxiety disorders and may also coexist with other clinical conditions such as major depression, schizophrenia and obsessive-compulsive disorder (McGlashan, 1984; Liebowitz, Gorman, Fyer, & Klein, 1985). Social anxiety is unique in that this condition as opposed to other phobic conditions, appears to affect both men and women in almost equal proportions (Amies, Gelder, & Shaw, 1983; Marks, 1970). The somatic complaints experienced by individuals with social anxiety are also unique to the disorder. Research shows that compared with agoraphobic individuals, symptoms such as blushing, sweating, trembling, muscle twitching and palpitations were more prevailing in socially phobic persons (Amies, Gelder, & Shaw, 1983; Gorman & Gorman, 1987). In addition, the cognitions of social anxiety are unique from other anxious conditions in that the central thoughts of socially anxious individuals are based on the fear of negative evalution by others. The socially anxious person's immediate thoughts focus on whether others will notice these symptoms and as a result, think of them in a negative

manner. Also, the desire to avoid or escape the situation is like no other anxiety disorder such that, the socially anxious persons does so for fear of doing something embarrassing or shameful. Turner and Beidel (1989) found from their own study (Turner, McCann, Beidel, & Mezzich, 1986) that socially phobic individuals tended to be much more disturbed than individuals with simple phobia on several dimensions. They also propose that the clinical state of social anxiety is much more debilitating than simple phobia and incorporates more general emotional distress. Turner, Beidel, Dancu, and Keys (1986) also attempted to clarify the differences between avoidant disorder and clinical social anxiety. Results from the study revealed that severe social anxiety is a chronic and prevalent disorder affecting many areas of an individual's life causing significant emotional distress. These condition may show associated symptoms of anxiety and avoidance of social situations but should not be confused with social anxiety.

2. Current Theories of Social Anxiety

Currently in the psychological literature, there are many competing theories to explain the aetiology and maintenance of socially anxious conditions. Many authors have conceptualized social anxiety as a subjectively unpleasant emotional reaction to perceived stress or threat in social situations. For example, Freud (1936) suggested that the source of threat was a conflict between energy systems of the brain. The exact nature of the threat or danger has attracted little agreement between the theories.

In the relevant literature, there have been three major models to explain the development of social anxiety. The first approach adopted by the behavioural literature, is the conditioned anxiety hypothesis or the response inhibition model (Hartman, 1983). The fundamental assumption of this model is that social anxiety is a consequence of inhibition of interpersonal responses by anxiety (Hartman, 1983). This model hypothesizes that the individual does possess the adequate skills to cope with the situation but the socially anxious person's autonomic arousal becomes conditioned to respond in these situations and interferes with the individuals ability to function. Basically, social anxiety is

postulated to be a classically conditioned response, developing from repeated exposure to aversive experiences in social situations (Wolpe, 1969). Further, Wolpe (1969) contends that assertion and anxiety are mutually incompatible responses and that assertion training inhibits social anxiety. This model is supported by indirect evidence from studies which demonstrated the alleviation of social anxiety and the enhancement of interpersonal skills through relaxation and systematic desensitization based therapy (Curran & Gilbert, 1975; Marshall, Keltner, & Marshall, 1981; Trower, Yardley, Bryant, & Shaw, 1978).

Halford and Foddy (1982) suggest that the classical conditioning model is flawed in that it fails to demonstrate why individuals may have a sequence of aversive experiences in social situations. Furthermore, the inadequacy of this model to explain social anxiety is reflected in the failed attempts of anxiety management procedures (e.g., systematic desensitization) to affect individuals with severe social anxiety (Marzillier, Lambert, & Kellett, 1976).

The second model of social anxiety is based on a skills deficit hypothesis that asserts social anxiety is a consequence of inadequate or inappropriate social skills within the individual's behavioural repertoire. This model assumes that the individual has never learned, or has forgotten the appropriate ways of behaving in and reacting to some or all social situations. This skill insufficiency may well be a result of faulty socialization processes (Scholing & Emmelkamp, 1989). As a result, these situations are associated with unpleasant consequences which produce subjective feelings of anxiety and distress and may lead to avoidance.

Therapy intervention in this case usually consists of methods to teach socially anxious individuals skilful ways of responding to problem situations such as modelling, behaviour rehearsal, and selective reinforcement. Within this conceptual framework, it is believed that once a person has obtained these new and appropriate responses within their behavioural repertoire, their use will be maintained by reinforcement from the social environment (Curran, 1979). Several studies have observed differences (as rated by external judges) in social competence between high and low socially anxious participants (Arkowitz, Lichtenstein, McGovern, & Hines, 1975; Beidel, Turner, & Dancu, 1985). Social skills training has been shown to enhance interpersonal

competence as well as reduce social anxiety (Curran & Gilbert, 1975; Twentyman & McFall, 1975).

The skills deficit model is incomplete in that an appropriate social skills repertoire may be necessary, but not sufficient to overcome difficult social encounters. For example, available evidence from a study of heterosexual dating anxiety (Curran, Wallander, & Fischetti, 1977, cited in Halford & Foddy, 1982) found that all socially unskilled participants were highly anxious in heterosexual interactions however, not all participants who were highly skilled were low in anxiety.

Finally, the cognitive hypothesis which suggests cognitive factors are intrinsic in the development, maintenance, and treatment of social anxiety has attracted universal attention. Recently, cognitive factors have become a popular explanation for why socially anxious individuals who have the appropriate social skills in their behavioural repertoire, fail to use skilled responses in social situations. Socially anxious individuals can respond skilfully in social interactions but because of inappropriate evaluations of their own or others' behaviour, they are usually unsuccessful. Cognitions such as negative self-evaluation, irrational beliefs, negative self-statements and so on, are believed to be responsible for the problems experienced by socially anxious individuals in social situations.

Although there is no single cognitive theory of social anxiety, the literature consists of a variety of approaches of which Beck, Emery, and Greenberg's (1985) has been amongst the most influential. It has been suggested that Beck's cognitive approach is based on the most complete accounts of cognitive processing in emotional disorders today (Wells, 1992). As a consequence, others have been influenced by Beck's theory of anxiety and the shift towards a more cognitive perspective has produced an array of experimental activity aimed at investigating the cognitive factors of social anxiety.

The Cognitive Theory of Aaron T. Beck

Cognitive theory is offered as an alternative to traditional psychoanalytic and behavioural models of emotional disorders. Rather than viewing social anxiety as related to unconscious processes or conditioning, a cognitive perspective has emerged, placing emphasis upon maladaptive schemata, biased information-processing, selective attention, negative self-evaluations, faulty attributions, distorted thinking, and a negative internal dialogue of thought. One of the most influential theoretical accounts of anxiety disorders from a cognitive perspective, is the cognitive schemata theory of Aaron T. Beck (1976, 1985). Beck's theory is predominantly based on the clinical observations of depressed patients, owing very little to experimental research. Beck, Emery, and Greenberg (1985) have elaborated a cognitive model of phobias and anxiety disorders. The theory has since been the subject of considerable research and debate. A number of studies have lent support for the cognitive theory of anxiety, either in whole or in part. Moreover, a number of researchers have criticized the theory, pointing out weaknesses and flaws in both the theory and methodology used to test it. This section of the introduction will outline the basic principles of Beck's theory and review a number of relevant studies carried out in this area. Furthermore, several major weaknesses and areas of criticism of the cognitive model of anxiety will be considered.

Early Development of Beck's Cognitive Theory

Beck and colleagues developed a cognitive theory of depression and other disorders (Beck, 1976; Beck, Rush, Shaw & Emery, 1979) which was primarily based on clinical data. Beck, who was trained in psychoanalytic methods, became increasingly interested in the content of his patients' cognitions. As a direct result of his clinical approach, Beck's cognitive therapy is one of the most complete accounts of cognitive processing in emotional disorders today (Wells, 1992). Although cognitive therapy was originally developed as a treatment approach for depression it has been modified and subsequently applied to social anxiety in addition to a selection of other disorders.

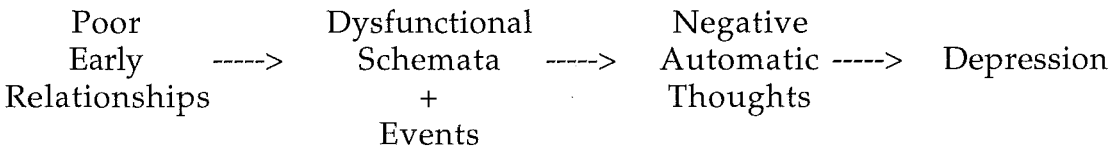

FIGURE 1. FLOWCHART ILLUSTRATION OF BECK'S COGNITIVE THEORY OF DEPRESSION

Source: Powers, M. J. (1987) Cognitive theories of depression. In H. J. Eysenck & I. Martin (Eds.) *Theoretical Foundations of Behavior Therapy* (p. 243). New York: Plenum.

Figure 1 displays the pathway to depression in accordance with Beck's cognitive theory. According to Beck, the depressed individual has a characteristic cognitive triad of beliefs and assumptions in which the self is viewed as negative, the world is seen to be a terrible place, and the future hopeless, consisting of nothing but failure. The presence of "depressogenic schemata" (Williams, 1987) represents the way in which the individual organises his or her past experiences and how he or she classifies incoming information. The foundation for this negative set of underlying assumptions about the self, the world, and the future is considered to result from difficulties in early relationships. In time, these give rise to an enduring psychological vulnerability where upon the depressed individual is hypersensitive to loss and deprivation cues. Subsequent occurrences of similar events or related situations may give rise to an increase in the negative processing of events and to depression.

As a result, Beck's cognitive theory assumes that each psychological disorder has a unique cognitive profile. The content of the faulty information processing system distinguishes each emotional state. For example, in depression one observes the theme of loss or deprivation. Beck believes that the content of cognitive functioning in anxious individuals is distinct from the content in depressed individuals in that with anxiety, one witnesses the theme of perceived psychological or physical danger or threat to oneself. Specifically to social anxiety, this potential threat is overestimated in social situations.

Beck's Cognitive Theory of Anxiety

Basic Assumptions

The basic proposition that is the backbone of all cognitive theories is that an individual's interpretation of situations and events mediates emotional and behavioural reactions. An individual's appraisal of the situation can serve to maintain psychopathological reactions. For the socially anxious this appraisal is primarily concerned with the status of the self in a hierarchically organised social group. A person's reactions to a 'threat' or 'danger' situation depends on his or her appraisal of the harmful components of the situation as well as his or her coping resources. An individual's cognitive processes can be viewed as either assets or vulnerability factors that interact with characteristics of the environment to produce adaptation or maladaptation (Sarason, 1986). In social anxiety, precipitating events may give rise to, or exaggerate underlying personal preoccupations, such as fear of negative consequences, rejection, criticism, or negative evaluation, thus evoking uncertainty about outcomes, hypervigilance, and concern over potential self-threatening danger. The socially anxious person is continuously scanning the situation for social cues which may indicate hostile appraisals of his or her self-presentation behaviour. As a result, the individual might not pay adequate attention to the behaviour at hand. Thus the socially anxious person questions their personal capabilities to perform or behave in a socially acceptable way giving rise to a preoccupation of self-defeating thoughts. High levels of anxious self-preoccupation interfere with the perception and appraisal of events and lead to distortions in estimating the possibility of social evaluation and acceptance. The presence of these cognitive factors are regarded as necessary but not sufficient in the production of affective states (Beck & Clark, 1988). Consequently, Beck's theory insists on the presence of cognitive processes in precipitating and maintaining specific emotional disorders.

Both normal anxiety and clinical anxiety are associated with thoughts concerning imminent danger. Beck has entitled these thoughts that are characteristic of emotional disorders as 'Automatic Thoughts' (Beck, 1967). The logic behind such a label is due to the fact that these automatic thoughts occur rapidly, are often in shorthand form, are

plausible at the time of occurrence and the individual has restricted control over them. The critical distorted thoughts of the anxious individual focus on the anticipation of danger, threat, and harm. With respect to social anxiety, this danger may well be psychological rather than physical in nature, involving themes concerning anticipated humiliation, rejection, criticism, failure, disapproval, or embarrassment in social interactions. This involves an overestimation of the probability of social failure or negative evaluation and what might possibly occur, and an underestimation of his or her personal ability to cope with the situation. Thus an exaggeration of normal survival mechanisms in social situations is represented by clinical states of social anxiety.

Beck presents an information processing model of the theory of anxiety by taking advantage of the structure proposed by Ingram and Kendall (1986). Essentially, there are two parts to Beck's theory. Firstly, there is the cognitive structure of the theory that refers to the stored experience and structures containing information in the form of assumptions, rules and beliefs about the self and life situations. These cognitive structures are called schemata. And secondly, there is a set of information-processing strategies that are assumed to lead to distortions or logical errors in thinking.

(i) Cognitive Structures

Bartlett (1932) introduced the first systematic schemata theory that defined a schemata as a combined body of knowledge stored in long-term memory, capable of manipulating memory processes. A concept that is fundamental to Beck, Emery, and Greenberg's (1985) model of anxiety, in addition to their work on depression (Beck, Rush, Shaw, & Emery, 1979), is the cognitive schemata. In its broadest sense, the schemata have been referred to as a collection of beliefs, rules, and assumptions about the self in past, present, and future life situations. More specifically, Beck describes these structures as somewhat stable and relatively enduring representations of prior knowledge and experience (Beck, 1967). These cognitive structures are used in the screening, encoding, and evaluation of both environmental and internal information (Beck, Rush, Shaw, & Emery, 1979). Fundamentally, schemata represent the frame of reference

for the person's view of the self, others, and environment, as well as the past, present, and future (Vasey, 1993).

Beck believes each psychological disorder has a characteristic cognitive profile, and the content of the schemata are thought to be specific to each emotional state (Beck & Clark, 1988). Hence, in anxiety we witness the theme of perceived danger or threat to oneself, be it physical or psychological, and of one's perceived inability to cope. For social anxiety, Kendall and Ronan (1990) also agree that the schemata are organised around a theme of threat to oneself including external threats (e.g., criticism, rejection, humiliation) and internal threats (e.g., negative self-evaluation) in social situations.

The schemata of the socially anxious person is believed to be focused upon external threat possibilities such as others' criticism and negative evaluation of the individual in social encounters. Activation of the schemata occurs when external stimuli indicate potential threat or danger and subsequently directs the focus of attention towards the threatening aspect of the situation (Beck, Emery, and Greenberg, 1985). For the socially anxious individual, when cues signal the possibility of evaluation in a social context, heightened vigilance for threats such as laughter, humiliation, or criticism occurs. For example, O'Banion and Arkowitz (1977) found that high socially anxious participants had better recognition memory for evaluative adjectives. This is consistent with research on anxiety in adulthood which has repeatedly demonstrated that anxious individuals evidence an attentional bias towards threat-related information (Hope, Rapee, Heimberg, & Dombeck, 1990). Non-anxious individuals however, tend to guide their attention away from information that is threat-related.

The self-schema is believed to be in operation at all times and guides the focus of attention during normal functioning. The self-schema of the socially anxious individual contains a high proportion of anxious propositions related to negative evaluation in social situations, which may be articulated in the form of questions. Several studies demonstrate that anxiety is associated with internal self-evaluative focus of attention (Carver, Blaney, & Scheier, 1979; Wegner & Guiliano, 1980).

As a result of these underlying cognitive structures, only moderate attention is given to environmental information, giving rise to distortions and biases in information processing (Wells, 1992). To be more

precise, Beck contends that the anxious person is hypersensitive to any stimuli that might indicate impending harm or threat to oneself. This hypersensitivity is characterised by a style of cognitive processing known as the vulnerability mode. The vulnerability mode is an organisation of schemata that "orient the individual to a situation and help him (sic) to select relevant details from the environment and to recall relevant data" (Beck, Emery, & Greenberg, 1985, p. 54). In turn, this facilitates the processing of threat-related cues in social situations as the socially anxious person becomes fixed towards and much more attentive to threat-congruent information.

For the socially anxious, stimuli that are consistent with social threat schemata in social situations are elaborated and encoded while information that is inconsistent with existing schemata is neglected. Thus, in social anxiety states, danger or threat schemata related to negative evaluation dominate the information processing system. These schemata represent a cognitive content that consists of assumptions and beliefs regarding social, and psychological threats to the self, and a personal sense of vulnerability. The schemata are considered to be more rigid, inflexible and concrete than the schemata of normal individuals (Beck, 1967). This vulnerability mode facilitates the processing of danger or threat-related cues. With respect to socially anxious individuals, the vulnerability mode becomes active in social situations. The schemata of the socially anxious classify them as inadequate or deficient in the appropriate resources and abilities to meet social demands. Consequently, social situations are recognised by the socially anxious person as confrontations and challenges which may have the effect of disclosing unwanted signs of vulnerability or weakness. As a result of consistent overestimations of their vulnerability and shortcomings by socially anxious individuals, confirmation of their expectation of negative evaluation may actually prove to come about.

When the schemata of the socially anxious individuals are activated, attention is directed towards threat-consistent information which effectively reduces the processing of schemata-incongruent information, making reality testing difficult. It is important to note that in certain situations the socially anxious individual sees what he or she expects to see rather than what is actually present.

Several studies provide direct evidence of the social information processing procedures used by socially anxious college students. Socially

anxious and non-socially anxious men were asked by Goldfried, Padawer, & Robins, (1984) to sort social situations into categories. Socially anxious men sorted social situations on the basis of 'chance of being evaluated' compared with non-socially anxious men who categorized situations on the dimensions of 'academic relevance' and 'intimacy.' Robins (1987) conducted a follow-up study where upon socially anxious participants rated these social situations as more uncomfortable and risky and sorted these situations according to intimacy more than the non-socially anxious participants. The discrepancy between the two studies is suggested by Robins to have occurred as a result of the different stimulus materials used in the studies. Robins suggests that the degree of intimacy in different social situations is important for the socially anxious person to determine the behaviour he or she is to perform, or is expected to perform.

Smith, Ingram, and Brehm (1983) used a depth of processing paradigm to examine directly the information-processing strategies of socially anxious individuals. Lists of adjectives were rated by socially anxious and non-socially anxious participants according to whether or not another person would use the adjective to describe them. The socially anxious participants recalled significantly more adjectives than non-socially anxious participants, but this occurred only when awaiting a heterosocial encounter. Smith, Ingram, and Brehm (1983) postulated that the advanced recall evidenced by socially anxious individuals is an indication of increased processing of social threat cues. They believe this occurred because how one appears to others was schemata-congruent for socially anxious participants anticipating social interactions. Results also revealed that the recall of socially anxious individuals was not enhanced when they were asked to judge whether they would use the words to describe themselves. Smith and colleagues classify this as a nonsocial task and as a consequence, is unrelated to schemata that evaluate threat in social situations.

So far, only one study has been found that investigated whether clinically severe social phobia is associated with extensive processing of social threat cues. Hope, Rapee, Heimberg, and Dombeck (1990) compared socially phobic participants with panic disorder patients using the modified stroop colour naming task. Socially phobic participants as opposed to panic disorder patients selectively attended to negative social-

evaluative words. The results support the existence of specific schemata which facilitate the processing of cues related to social-evaluative concerns for socially anxious individuals and physical danger for panic disorder patients. It is noteworthy to recognize that this study is preliminary and requires replication.

Bearing in mind that the schemata of the socially anxious person effectively filters perceptions and guides judgement then, according to Beck's theory, the self-schema of the socially anxious person should also facilitate processing aspects of the social environment that are schema-congruent. Several studies lend support to the fact that socially anxious individuals process information in a way that confirms their view of themselves in social encounters. Accordingly, socially anxious persons systematically underestimate their performance in social interactions despite the fact that they have the ability to make accurate estimates of others' performance (Clark & Arkowitz, 1975). Socially anxious individuals also recall an overabundance of negative feedback (O'Banion & Arkowitz, 1977) and subsequently view that feedback as more negative than non-socially anxious individuals (Smith & Sarason, 1975).

To the extent that schemata promote the processing of consistent or relevant information, the schemata may also disrupt the processing of conflicting or irrelevant information from the social environment. Socially anxious individuals may unwittingly screen out aspects of social interactions that are not fundamental for evaluating one's vulnerability (Hope, Rapee, Heimberg, & Dombeck, 1990). There is evidence that socially anxious individuals do not show a preference for similar over dissimilar interaction partners (Heimberg, Acerra, & Holstein, 1985). This phenomenon has been repeatedly demonstrated by non-socially anxious individuals (Byrne, 1971).

Thus the schemata of the socially anxious individual make information-processing more economical since the individual need not rely soley on information available from the environment but also past experiences also inform the person what to expect and how to cope. That is, the socially anxious person is prepared to focus on what he or she perceives as the important aspects of the environment and applies the appropriate rules and concepts that dictate his or her interpretations. As a result, distortions and biases in information-processing develop.

(ii) Cognitive Processes

Once dominance or threat schemata are triggered, systematic distortions or biases in the processing of information occur. The socially anxious individual's sense of vulnerability in social situations is magnified by these dysfunctional cognitive processes. Several cognitive errors most commonly found in anxiety states have been identified by Beck and associates (Beck, 1967, 1976; Beck, Rush, Shaw, & Emery 1979), including: catastrophizing or dwelling on the worst possible consequence of a situation and overestimating the probability of its occurrence; personalization or incorrectly taking personal responsibility for negative consequences; selective attention/abstraction or selectively focusing on negative features of an event while ignoring more important features; overgeneralization or global predictions of negative outcomes and applying these to situations in general; dichotomous thinking or evaluating experiences in only black or white terms; arbitrary inference or formulating conclusions on the basis of insufficient evidence; and magnification and minimization or gross distortions in the importance of events. A study by Leitenberg, Yost, and Carroll-Wilson (1986) examined the negative cognitive distortions proposed by Beck (1967) in the information-processing operations of depressed, low self-esteem, and evaluation anxiety children. Results showed that depressed, low self-esteem, and high evaluation anxiety children are more likely to make negative cognitive errors (e.g., catastrophizing, overgeneralization, selective abstraction, etc.) than their non-depressed, high self-esteem, and low evaluation anxiety peers.

Both childhood and adulthood disorders are associated with cognitive deficits and distortions. Kendall (1985) differentiates these two propositions suggesting that cognitive distortions represent dysfunctional thought processes and their products such as excessive self-talk or excessive self-focused attention. Cognitive distortions have the ability to confirm and reinforce the socially anxious individual's notion of potential threat as well as increasing their heightened vulnerability in social situations. Cognitive deficits on the other hand involve deficient or scarce adaptive mental skills and abilities or unusually low frequencies of beneficial mental activity. Possible examples may include a lack of adequate planning or verbal intervention.

Beck, Emery, and Greenberg (1985) conclude that cognitive distortions keep the anxious individual from formulating a reasonable estimate of either threat or coping resources. Socially anxious individuals usually jump to subjective conclusions without substantial or objective evidence. They can see similarities and make overgeneralizations particularly with themes of threat, uncertainty, and safety in social situations. Beck (Beck, Emery, & Greenberg, 1985) argues that with any hint of perceived discomfort or distress, the socially anxious individual automatically focus on the worst possible outcome. They selectively abstract information from past and present experiences to support such dire consequences. Furthermore, Mathews and MacLeod (1987) suggest that these biases and distortions in the information processing of socially anxious individuals will be evident only when there is competition for processing resources.

Thus socially anxious individuals automatically and selectively attend to threatening stimuli in their social environment. In addition, when socially anxious individuals are confronted with a feared social encounter, studies on self-efficacy report that they experience an increased sense of vulnerability and underestimate their ability to cope with the situation (Bandura, Adams, & Beyer, 1977). Thus, their constant self-doubt locks them in a pattern of self-defeating automatic thoughts.

(iii) Cognitive Products

The earliest studies of the content of thought in anxious patients was by Beck, Laude, and Bohnert (1974). They conducted open-ended interviews with patients who experienced anxiety, including those with panic and those without panic attacks. All patients reported thoughts or visualisations of death, disease, or social humiliation or embarrassment prior to or during their anxiety. According to Beck (1976) automatic thoughts are specific and distinct and occur very rapidly. For example, in social anxiety the content concerns themes of social threat to oneself through thoughts, or visual images of perceived social, psychological, or physical harm in social situations. When an individual is experiencing anxiety, these thoughts are difficult to ignore, let alone to stop them or shut them off. To a socially anxious person, their automatic thoughts seem plausible and worthy of belief and therefore, have no reason to

doubt them. They are contrary to objective appraisal and generally demonstrate greater distortion in reality than other forms of thinking (Emery & Tracy, 1987).

It is hypothesized that these automatic thoughts, both verbal and imagery form reflect the content of the underlying schemata (Beck & Clark, 1988). The cognitive content that has most commonly been associated with social anxiety revolve around the fear of negative evaluation, criticism, and rejection in social situations. Thus, socially anxious individuals self-verbalizations and internal dialogue of negative self-evaluation and self-defeating thoughts reflect the content of their social threat-related schemata. The most common reportable consequences of the manipulation of the information-processing system are, irrational beliefs (Glass, Merluzzi, Biever, & Larsen, 1982; Goldfried & Sobocinski, 1975), negative self-statements (Beidel, Turner, & Dancu, 1985; Bruch, Mattia, Heimberg, & Holt, 1993; Cacioppo, Glass, & Merluzzi, 1979), negative self-evaluations (Curran, Wallander, and Fischetti 1980; Clark & Arkowitz, 1975; Hartman, 1983), and negative attributional styles, especially towards heterosocial interactions (Goldfried, Padawer, & Robins, 1984; Miller & Arkowitz, 1977; Teglasi & Fagin, 1984).

The dominance schemata of the socially anxious individual is reflected in the self-relevant cognitions he or she is experiencing. That is, the content of these cognitions and inhibitions revolve around a preponderance of thinking that concerns what others might be thinking about them. Hartman (1984) has suggested that the negative self-statements reported by socially anxious individuals fall into several categories: (1) thoughts involving general social inadequacy, (2) others' awareness of one's distress, (3) fear of negative evaluation, and (4) over-perception of arousal and performance. Patterns of self-statements by socially anxious individuals have been assessed in a number of studies (Beidel, Turner, & Dancu, 1985; Bruch, Mattia, Heimberg, & Holt, 1993; Glass, Merluzzi, Biever, & Larsen, 1982; Hartman, 1984; Heimberg, Acerra, & Holstein, 1985; Myszka, Galassi, & Ware, 1986). The assessment of self-statement patterns is concerned with the more immediate cognitions experienced by socially anxious individuals in specific situations. Compared to non-socially anxious individuals, socially anxious persons have reported more negative self-statements (Beidel, Turner, & Dancu, 1985), and fewer positive self-statements when anticipating a heterosocial

interaction (Heimberg, Acerra, & Holstein, 1985). Glass, Merluzzi, Biever, and Larsen (1982) have found negative self-statement scores to be particularly sensitive to social anxiety.

The focus of the socially anxious person's appraisal shifts from his or her skills to his or her weaknesses or vulnerability. Negative self-statements made by socially anxious individuals correlate significantly with ratings of social skills and anxiety made by external judges. Almost always, there is consistency between the cognitive manifestations and the behavioural manifestations of vulnerability. The socially anxious individual feels vulnerable if he or she believes to lack the important social skills necessary to cope with a particular social situation. As a result, many difficulties may turn into threats if he or she realises that he or she does not have the minimal skills for coping with a problem situation. For example, Mandel and Shrauger (1980) asked male participants to read a list of either self-enhancing or self-critical self-statements and their initiation toward a female peer was evaluated. The results of the study revealed that participants who read the self-critical statements not only took a longer period of time to start a conversation with the female participant but also spent less time interacting with her than participants who experienced self-enhancing statements. These results were also replicated with anxious and non-anxious participants.

Accordingly, Beck, Emery, and Greenberg (1985) suggest that socially anxious individuals will react with self-confidence or a sense of vulnerability depending on his or her appraisal of their ability to cope with the threatening social situation. Thus the socially anxious person's feelings of vulnerability make it difficult for him or her to be objective about his or her negative self-appraisals. Beck suggests socially anxious individuals engage in a self-protective mechanism or a "watch your step" (Beck, Emery, & Greenberg, 1985, p. 75) phenomenon. That is, the cognitive system of the individual ensures caution by evoking a series of self-doubts, negative evaluations, and negative predictions about oneself and one's performance.

A pervasive and consistent theme in the literature is that socially anxious individuals almost always rate themselves poorly. The socially anxious individual may evaluate his or her performance poorly because they do lack the required social skills, because he or she is a poor observer of their own performance or ability, because their standards for evaluation

are too stringent, and so forth. The perception of the socially anxious individual as socially inadequate may be the consequence of a difference in attentional focus during social interactions (Beck, Emery, & Greenberg, 1985). High socially anxious individuals suffer from an internal focus of self-evaluative, self-deprecatory thinking, and overperceptions of autonomic arousal. In addition, the socially anxious person is also dividing their attention to include others perceptions and evaluations of them (Hartman, 1983). Effective social performance requires full attention to the task and the socially anxious person is impaired by the effort to divide his or her attention between internal cues, external cues, and task cues. The activation of self-focusing tendencies is greatest when he or she perceives the situation to be highly evaluative.

Faced with the goal of making a good impression on others, many individuals will become socially anxious to the extent that they doubt they will do so (Schlenker & Leary, 1982). Such doubts may be generated when people are uncertain about how to make a good impression, or when individuals know how such an impression can be created but their perceptions of the situation, their own attributes, skills, and resources lead them to believe they cannot achieve the desired goal. Beck, Emery and Greenberg (1985) conclude that inhibited speech, thinking, and recall as reactions to anxiety distract the individual from the social situation and provide supplementary evidence for negative expectations and overly negative self-evaluations, at the same time nurturing the vulnerability mode. As a result, this set of expectancies leads to social anxiety.

It is important to note that expectations are based heavily on an individual's history of prior experiences and outcomes in the specific situations which are associated with anxiety (Carver & Scheier, 1986). Research has repeatedly demonstrated that shy individuals, similar to socially anxious persons, expect their social behaviour will be inadequate and as a consequence, will be negatively evaluated by others (DePaulo, Kenny, Hoover, Webb, & Oliver, 1987; Leary, Kowalski, & Campbell, 1988). For example, Cheek and Stahl (1986) asked college women to write a poem after they had completed a shyness inventory. Prior to writing their poems, half of the participants were told that their work would be assessed for creativity by a panel of poets and that they would receive a copy of the evaluations. The other half of the sample were not told they would be evaluated. Results showed that shyness correlated -.57 with the creativity

ratings of the poems in the evaluation situation whereas the correlation in the control condition was only -.13.

Consequently, socially anxious individuals make interpretations and draw inferences from external and internal stimuli regarding the status of the self in a hierarchically ordered social group. These inferences can be interpreted as expectancies regarding estimates of people's evaluations of one's appearance, behaviour and other self-identifying characteristics. For most people such expectancies only become prominent when the dominance schemata are triggered, especially when attention is drawn to the self. The dominance schemata and the consequent expectancies and evaluations of the socially anxious person may be ever present. A great deal of research has documented the relation between the belief or assumption that one lacks the valuable social skills and experience to cope with specific situations and social anxiety (Leary, 1982). A very early study by Gilkinson (1943, cited in Schlenker & Leary, 1982) found that speech anxious students significantly underestimated both their speaking ability and the quality of their speeches as compared with observers' evaluations of them. Efran and Korn (1969) demonstrated that 'socially cautious' participants had lower expectations for success than 'socially bolder' participants on a number of social and verbal tasks. Although the two groups did not show differences in expectations for success on intellectual, artistic, or athletic domains.

It appears the negative evaluations of socially anxious individuals are confined primarily to themselves. Socially anxious individuals systematically underestimate the quality of their social skills (as compared with observers' ratings of them and with the self-evaluations of low socially anxious persons), but high and low socially anxious participants have been found to agree in their appraisals of a confederate's social ability (Clark & Arkowitz, 1975). A study by Clark and Arkowitz (1975) required male participants to take part in two interactions with female confederates. Following the interactions, participants were asked to rate their own and others' performance with respect to social skill, anxiety, and the quality of the female's responses to them. Objective judges also completed these ratings of high and low anxious participants. Ratings of skilfullness of their own performance differed to the extent that high anxious participants gave themselves significantly lower ratings than they received from the judges. In contrast, low anxious participants ratings of their own

skill matched the judges ratings. Bearing this in mind, it is interesting to note that high anxious participants like low anxious participants, also matched judges' ratings of other persons ability with reasonable accuracy.

These findings have been replicated and extended by Curran, Wallander, and Fischetti (1980) who examined the differences in self-evaluation among socially anxious individuals who evidenced high or low social skills. Socially anxious individuals who lacked the appropriate social skills gave accurate observations of their performance, whereas the anxious participants who were socially skilled consistently underestimated judges' ratings of their performance. A study by Cacioppo, Glass, & Merluzzi (1979) also found that high socially anxious individuals rated themselves more negatively and as less potent and active, and also generated significantly more negative self-statements compared to low socially anxious participants.

In accordance with Beck's theory of anxiety, Schlenker and Leary (1982) have suggested that socially anxious individuals have unrealistically high self-standards. This automatically increases the individuals self-doubts that he or she will be able to perform successful self-presentations in social situations. Although non-socially anxious individuals may also have high self-standards and may even doubt their performance, the difference rests in the existence of the dominance schemata which turns such doubts into social anxiety (Trower, Gilbert, & Sherling, 1990). That is, the threat schemata of the socially anxious person contains a representation of the the social world as being critical and competitive. Their perception of a world insinuates that powerful and assertive self-presentations will lead to success whereas the potential for failure are perceived as exceedingly catastrophic. The incongruity between self-presentation performances and self-standards causes the socially anxious individual's focus of attention to be turned on the self (Carver & Scheier, 1986). Thus, a prominent characteristic of the socially anxious is high self-consciousness (Buss, 1980).

Excessive self-consciousness is associated with ineffective social performance, reduced sensitivity to other persons, and heightened self-perceptions of inadequacy in social situations (Christensen, 1982, cited in Hartman, 1983). It appears that consuming self-focus prevents the awareness of, and misinterprets external events. Awareness of oneself as a social being is cognitively demanding and as a result the socially anxious

person is less sensitive to the behaviour of others in social situations. Thus, the socially anxious individual experiences attentionally demanding cognitive activity during social interactions. That is, the socially anxious person responds to evaluative situations with ruminative self-focused attention and cannot direct attention to the effective coping of the task.

A pervasive theme to all of the thoughts and inhibitions that the socially anxious individual experiences in social situations is that they are largely irrelevant to cognition necessary to efficiently perform in social situations. Research has repeatedly identified and demonstrated a phenomenon known as the "self-serving bias" in causal attributions. It has been suggested that the cognitive pattern in socially anxious persons is similar to those observed in depressed people (Anderson & Arnoult, 1985). Non-socially anxious individuals tend to attribute their successes to their own efforts, abilities, skill, and dispositions whereas they ascribe their failures to task difficulties, bad luck or other external circumstances (Bradley 1978). This seems plausible considering the individual's motive for self-presentation and enhanced self-esteem. With respect to social anxiety, evidence suggests otherwise. Socially anxious persons are susceptible to a reverse bias in which they attribute failure to personal flaws (Arkin, Appleman, & Burger, 1980; Trower & Turland, 1984).

The socially anxious individual is motivated to make a good impression to real or imagined audiences but has doubts that he or she will do so (Schlenker & Leary, 1982). Taylor and Arnow (1988) have observed that socially anxious individuals assume the anxiety they experience in some situations marks them as different even thought these same situations may arouse anxiety in many of us (e.g., public speaking, job interviews, academic examinations, etc.). As a consequence of this anxiety, the socially anxious person continues to label themselves in a global, absolute, and self-blaming manner. The anxiety experienced by socially anxious individuals is heightened by the individual's increased awareness of internal states, including thoughts and affect. As a result the individual is trapped in a state of self-examination by concentrating on their thoughts, feelings, and behaviours such that performance in social situations is debilitated. The combination of excessive self-focus, negative affect, and impairments of social performance may originate in doubts

about self-presentation producing desired reactions from others (Hartman, 1983).

Teglasi and Fagin (1984) and Teglasi and Hoffman (1982) have provided data to suggest that social anxiety is associated with a reversal of the self-serving bias. Teglasi and Hoffman (1982) compared volunteers from a university psychology class with respondents to an advertisement recruiting shy people. Each participant made attributional ratings for positive and negative outcomes of social and task oriented scenarios. For the social scenario only, shy participants took more personal responsibility for negative outcomes and less responsibility for positive outcomes than the participants who were not shy.

Accordingly, the socially anxious individual is characteristically locked into the threat or dominance schemata which controls information-processing, and in particular the type of expectancies, inferences, and attributions the individual makes. Trower, Gilbert, and Sherling (1990) suggest that such inferences associate some aspect of an individuals behaviour, appearance, or other self-identifying attribute to a negative evaluation of his or her self-presentation behaviour by others. The motivation behind these inferences rest on more important assumptions intrinsic in the dominance schemata which give them their meaning. The theme of these assumptions include the fear of social disapproval, rejection, and abandonment.

A study by Miller and Arkowitz (1977) failed to find similar support for the relation between attributional patterns and social anxiety. High and low socially anxious male participants were asked to take part in two 5-minute conversations with a female confederate (who was informed to behave in a cold or warm manner). High socially anxious males were hypothesized to attribute failure (confederate coldness) to themselves and success to the situation (confederate warmth). Yet the study failed to prove the hypothesis correct. The Miller and Arkowitz (1977) study differed from studies by Teglasi and colleagues in that they utilized actual interaction situations rather than imagined scenarios. Bearing this in mind, the socially anxious participants may have been poor observers of the differences between the confederate's friendly and distant behaviour (Hope, Gansler, & Heimberg, 1989).

A socially anxious individual's sense of low self-efficacy in combination with their tendency to overpeceive themselves as the focus

of others' attention, may make the reversal of the self-serving bias a viable strategy for impression management (Hope, Gansler, & Heimberg, 1989). For example, if the socially anxious person fails in a social situation other people will undoubtedly notice. Therefore it is better to acknowledge the failure than to make a further mistake by not recognizing the first failure. Consequently, if the social situation is a success, then the socially anxious person will not take credit for the success because they fear that others will expect them to perform as equally well in future interactions. Hope, Gansler, and Heimberg (1989) suggest that the reversal of the self-serving bias serves as a self-handicapping strategy created to limit the possible damage to self-presentation as well as reduce others expectations of them in future situations.

The above data are consistent with Beck's hypothesized vulnerability mode. The verbal reports of socially anxious persons suggest that they possess attentional bias and distortions and define themselves as having the inability to cope with the situation at hand and as likely victims of negative evaluation. Assessment of Beck's theory through self-report of thoughts and self-statements can provide only indirect evidence of the existence of anxiety schemata because only the verbal content of cognitive activity is examined rather than actual information-processing styles.

Although the above studies are consistent with the cognitive model, many failed to include a group of patients or participants with an anxiety disorder other than social anxiety. For this reason, it is difficult to determine if the results observed in these studies are unique to social anxiety or an attribute of anxiety disorders in general. Also many studies have restricted methods of identifying the thoughts that are characteristic of social anxiety. Moreover, a variety of studies only go so far as to measure the frequency of thoughts in social situations ignoring the content of those thoughts.

It must be noted that developmental factors have important consequences for all aspects of the information-processing system in childhood social anxiety. With the advancement of childhood cognition, cognitive structures and their content as well as cognitive processing are each likely to change with development. Anxiety-related cognitive distortions and thoughts are also likely to alter, subject to the child's level

of development. Although minimal and insufficient research exists on the information processing styles of socially anxious children and children in general, several adult studies do offer indirect support for Beck's approach.

Criticisms of Beck's Cognitive Theory of Anxiety

Beck's theoretical proposal can be credited as the first systematic attempt to provide a comprehensive cognitive theory of anxiety (Eysenck, 1992). Although Beck's cognitive theory is a valuable contribution to the understanding of anxiety disorders it has been criticised on many occasions for its lack of specificity. Eysenck (1992) has pointed out several flaws and weaknesses of the information-processing theory of anxiety.

A valuable part of Beck's theory is the concept of the hierarchically ordered schemata that guide the processing of threat-related information. It is suggested by Eysenck (1992) that the study of information-processing operations needs to be more specific than what has previously been done by Beck and colleagues (1985, 1988). For example, he has suggested that the processing of information consistent with the anxious schemata is less extensive in scope than is suggested by the schemata theory. Evidence suggests that anxious persons do not show biases in their retrieval efforts of schemata congruent information (Mogg, Mathews, & Weinman, 1987).

The validity of Beck's theoretical structure raises some criticisms. The concept of the schemata used within the theory is vague and often considered to mean little more than a belief, an attitude, or an assumption. Such vagueness is of considerable importance when attempting to evaluate the theory. The notion proposed by Beck and Clark (1988) that maladaptive threat or danger schemas motivate anxious individuals to selectively attend to threat-related information that is congruent with active schemata has been contradicted by other data. For example, studies have found that individuals pay more attention to information that is inconsistent with expectations (Berlyne, 1960), and attend to stimuli that is incongruent with one's active schema for a longer period of time than stimuli that is consistent with one's schemata (Friedman, 1979).

Eysenck (1992) also argues that although Beck insists there may be people who do possess maladaptive threat schemata and as a result, have a vulnerability for developing intense anxiety, he has failed to pinpoint these individuals and engage in prospective studies to determine any possible predispositions.

The assumption that 'normal' thinking is more rational, logical, and realistic than anxious or depressive thinking is disputable on a number of grounds. Leitenberg, Yost, and Carroll-Wilson (1986) suggest that non-depressed, high self-esteem, and low evaluation anxiety children may make the same inferential errors in thinking but in opposite directions. The social psychological literature emphasizes that most children and adults are biased in a self-enhancing manner (Bradley, 1978; Fischer & Leitenberg, 1986; Myers, 1990).

Depressed and anxious individuals may be more accurate with negative information that is actually correct because the conclusions they draw are compatible with their model of a negative view of themselves. In contrast, non-depressed and non-anxious individuals are much more precise with accurate positive information because the assumptions they draw are congruent with their positive representation of the self. Thus, one's belief can influence one's reasoning. This poses problems for therapy as depressed and anxious individuals are unfortunately correct about some of the negative aspects regarding themselves and the situation, but are clearly wrong about many of the positive aspects with respect to themselves and the situation.

A simple yet important part of research that has been neglected by Beck is the failure to include data from non-anxious control groups. A non-anxious comparison group is an essential part of research to obtain valid and significant reports of the specific cognitive processing of anxious individuals.

Another weakness of Beck's theory is the issue of causality, in that maladaptive or 'non-normal' cognitive functioning is the first sign of the onset of clinical anxiety eventually causing disturbances in behavioural and somatic areas (Eysenck, 1992). Eysenck (1992) suggests that Beck fails to consider that not all aspects of non-normal functioning are related to anxiety in the same way. For example, self-defeative thinking and anxious thoughts may be a part of the anxiety disorder itself, whereas automatic

selective attention to threat or danger stimuli may be part of a predisposition to clinically severe anxiety (Eysenck, 1992).

It has also been suggested that Beck and colleagues (1985, 1988) use of introspective evidence is limited in that distortions in data can easily occur. This makes available evidence questionable with respect to its validity and reliability.

3. Developmental Factors

Social anxiety has been defined primarily as an adult disorder and has not been extensively investigated in childhood. Research pertaining to the development of social anxiety in childhood is scarce and no other studies to date have specifically examined the relationship between social anxiety, biased information-processing, and cognitions in children. The most important consideration when studying the anxiety of children is that they are continually growing and maturing both quantitatively and qualitatively. Children's physical growth, emotional growth, social growth, and cognitive growth are systematically developing and changing. As a result of developmental change, at different ages and stages children manifest differences in fear and anxiety reactions. A child's age can influence his or her ability to experience or express socially anxious feelings. Moreover, the way these anxious feelings are expressed change with the development of the child. Furthermore, the expression of socially anxious feelings at one age is dependent on prior maturational changes at an earlier point in time.

Cognitive Development and Social Anxiety

Developmental factors can have significant effects for all aspects of the information-processing system in childhood anxiety. For example cognitive structures such as the self- and other schemata of the child are likely to dramatically change with development. With cognitive development, children's schemata undergo considerable elaboration, and possible qualitative reorganization of these structures must also be

considered. The cognitive processes of self-focused attention or automatic questioning of negative or worrisome possibilities in social situations is likely to be determined by the level of development cognitive operations and structures (Vasey, 1993). Moreover, a child's level of development has clear implications for what the child can imagine in the way of threats. The observable social anxiety-related distortions in cognition are dependent on, or modified by the attainment of specific levels of development.

The content of children's fears and anxieties differ markedly with developmental age. In young children anxiety is related to external, physical threats such as fear of monsters, the dark, and animals whereas the anxiety of older children is primarily related to internal and abstract threats such as concerns about social interaction (Kendall & Ronan, 1990). The progression from external, physical anxiety to internal, abstract anxiety reflects the development of children in various cognitive and social-cognitive areas, including the development in cognitive structures and information-processing operations. Research has demonstrated that the content of adult social anxiety is predominantly related to threats to the social self (Hope, Rapee, Heimberg, & Dombeck, 1990; Mathews, 1990). This also appears to be the case in childhood. For example, Vasey (1993) questioned children from ages 6 to 12 about worries in various situations and found that 90% of the worries reported related to threats to the self rather than to others. Therefore, it appears logical to assume that the cognitive content of social anxiety is linked with the development of children's self-understanding and self-concept due to the fact that the concept of social anxiety is fundamentally related to threats to the self. The development of self-concept is mediated through development in a variety of cognitive and social-cognitive areas.

The content of the thoughts of socially anxious and non-socially anxious children reflect developmental changes in their perceptions of themselves as well as their physical and social environment (Vasey, 1993). Prior to 8 years of age, children tend to perceive themselves primarily in "physicalistic" terms with respect to their bodies and belongings (Selman, 1980). Changes in children's understanding of their self-concept occur at approximately 8 years of age (Damon & Hart, 1982). Research has demonstrated that the content of children's worries develop from physicalistic threats to psychological threats. For example, Vasey (1993)

cites a number of studies that have found increases in psychological distress (Miller, Barrett, Hampe, & Noble, 1972) and social and academic fears (Lapouse & Monk, 1959) as children become preadolescent. It is at this age when children become capable of engaging in social comparison and develop the ability to consider the way that others may evaluate them. The socially anxious child's awareness of other person's evaluations as related to their behavioural competence become increasingly important in the development of their self-concept as well as the development of social anxiety.

An important component of social anxiety is the fear of negative evaluation. This requires the ability to engage in social comparison as well as the competence to consider the manner that others may evaluate them in social situations. The worrisome thoughts that the socially anxious individual has in these situations are primarily social evaluative in nature (e.g., fear of failure, criticism, humiliation, and rejection and their social consequences). Various studies have suggested that older children as opposed to younger children tend to report more fear of failure, criticism and so on than their younger counterparts (Ollendick, Matson, & Helsel, 1985; Vasey, 1993).

Because the content of thought is mainly social-evaluative among socially anxious adults and older children, it is doubtful that the thoughts of children younger than 8 years of age reveal worries concerning social evaluation. This is due to the fact that young children do not possess the necessary social comparison and other person perspective-taking abilities for such anxiety. Vasey (1993) suggests that the self-concept of very young children revolves around absolute standards where upon they are more likely to worry about not completing a task successfully rather than with the negative evaluation and criticism of others. Thus the content of children's social anxiety-related cognitions is a reflection of, and dependent on their level of social and cognitive development.

To the extent that social anxiety is defined as social evaluative in nature by DSM-III-R (APA, 1987), then it is impracticable for very young children to experience the worry-related thoughts of social anxiety prior to the development of a sense of their social self, and other person perspective-taking abilities. This is significant for distinguishing between the anxiety-related cognitive processes and the content of social anxiety.

In order for a child to mediate social anxiety, it seems clear that the development of certain abilities is imperative. More specifically, developmental changes in childhood are essential for the cognitive representation of social anxiety and how children may mediate anxiety reactions through their own worrisome thoughts. Vasey (1993) suggested that at least two cognitive operations are necessary in order for the child to worry about being negatively evaluated. Socially anxious children must be capable of conceptualizing and anticipating future events. For socially anxious children, to have the ability to anticipate only one threatening possibility such as remembering a humiliating or distressing interaction with other people and considering its possible recurrence in future social situations, is sufficient to produce anxiety in social situations. Additionally, the child must also be capable of going beyond what is observable and consider what is possible (Vasey, 1993). That is, the child must have the ability to elaborate catastrophic possibilities. Beck and Emery (1985) argued that social anxiety is characterised by and dependent on the ability to catastrophize about possible negative social situations. The socially anxious person exaggerates the likelihood and magnitude of the potential negative consequences of many social situations. Therefore the expression of social anxiety in childhood is dependent on prior maturational changes at an earlier point in time.

For example, the fear of negative evaluation is fundamentally an anticipatory process and its occurrence is subject to the child's ability to reason about the future. Before the ages of 7 to 8, children possess a limited ability to consider the future (Vasey, 1993). After the age of 8, children's perspective and understanding of the future becomes much more elaborate and is reflected in their language ability (Vasey, 1993). Therefore, during childhood it is important to consider the developing abilities of the child to conceptualize the future and the implications these abilities have on the way a child can become anxious through his or her own cognitions in social situations.

To the extent that social anxiety involves reasoning about future threatening possibilities and the evaluation of all possible failure situations, the ability to anticipate and reason about hypothetical events is also crucial in order for a child to worry in social situations (Vasey, 1993). More importantly, without this ability the child could not possibly engage in the process of catastrophic thinking which is an essential component of

social anxiety reactions. Piaget (1987, cited in Vasey, 1993) contests that as children's cognitive development advances there is a qualitative change and enhancement in their ability to hypothesize about the possible. For example, in his work on possibility Piaget argues that children in the preoperational stage (2-7 years) have little ability to anticipate and are capable of creating only a limited number of possible solutions. Children in the concrete operational stage (7-11 years) have the ability to engage in deductive reasoning and are capable of comprehending several possibilities at once. To the extent that these children are capable of considering a number of possibilities at this stage, they remain finite but they are completely anticipatory. Children in this stage become capable of elaborating catastrophic possibilities because the ability to anticipate several threatening possibilities is a prerequisite for worry to mediate social anxiety. In the formal operational phase (11+ years) children develop the ability to anticipate unlimited possibilities that may be new or based on prior experience. With the advancement of anticipatory and deductive reasoning processes, children have the ability to conceive infinite possibilities. Vasey (1993) suggested that as children's ability to conceptualize sequences of negative outcomes increases, so too does the severity and generality of evaluation-mediated anxiety.

Mathews (1990) suggested that cognitive operations such as anticipation and reasoning about negative possibilities, interact with cognitive structures to create the process of anxiety. An important aspect of the information-processing system is the structure of memory which undergoes significant changes with development. That is, the organisation of children's memories is dependent on levels of development. For example, young children's memories are schematically organised in a manner which reflect event representations or scripts whereas children older than 7 to 8 years of age possess a memory structure that supports the type of spreading activation described in theories of anxiety (Mathews, 1990). Thus, schematic relationships are replaced by categorical relationships where upon threatening information is organised as a collective body in which thoughts about one type of threat stimulate thoughts about other threat-related possibilities through spreading activation.

This notion is in accordance with current cognitive theories of social anxiety which assume that information is organized around a

theme of threat (Beck, Emery, & Greenberg, 1985). The theme of threat is regarded as a categorical relationship in which the perceptual and/or functional "sameness" shared by all information in the network is organised around such a theme (Mathews, 1990; Mathews & Eysenck, 1987). Therefore for a child to experience the cognitive components of social anxiety, it is necessary that they possess the facilitative effects of associative priming.

When attempting to apply adult models of biased or distorted information-processing operations to children, developmental differences are important considerations. Research has demonstrated that socially anxious individual's attentional processes are biased towards the perception of threat-related information in social situations (e.g., Hope, Rapee, Heimberg, & Dombeck, 1990; MacLeod, Williams, & Bekerian, 1991). Eysenck (1992) suggests that these attentional biases are associated with the anxious persons accessible memory structures in combination with anxious mood. As a result of the differences in the organisation of cognitive structures across developmental ages, attentional biases may differ as well. For example, Vasey (1993) suggests young children may show specific attentional bias related to specific event representations whereas the category based network of older children support general biases towards threats. Again, level of cognition controls the association between threat-related possibilities in social situations and a child's elaborate memories and thoughts that may be loosely related but share a common link to anxious mood and threatening qualities.

The cognitive perspective rests on the assumption that both adults and children are problem solvers and efficient processors of information. In this sense, the way in which children control their cognitive processing is critical. Kendall and Ronan (1990) have emphasized several major distortions in childhood social anxiety especially, misperception of demands from the social situation, extreme self-criticism, underestimating one's skills and abilities, and excessive self-focused attention. Both deficits and distortions are assumed to play a significant role in the aetiology and maintenance of childhood social anxiety. It is more likely that internalizing problems such as social anxiety in childhood are related to distortions rather than deficits because distortions lead to overcontrolled behaviour (e.g., inhibition due to misperceived threat or underestimation of one's coping abilities), whereas deficits are primarily related to a lack of

self-control skills (Kendall, 1985; Kendall & Ronan, 1990). A study by Kendall, Stark, and Adam (1990) supports this distinction demonstrating that childhood depression is associated with distortions linked to self-evaluations but is not related to self-control deficits. It must be noted that the majority of children do not develop problems with severe anxiety in social situations simply because the have the ability of considering a variety of catastrophic consequences. Vasey (1993) argued that only those children who have anxiety-promoting cognitive deficits or distortions are at risk for developing social anxiety. This is consistent with other cognitive theories of adult anxiety (e.g., Beck, Emery, & Greenberg, 1985).

In order to identify the role of distortions in childhood social anxiety, it is important to consider how children usually cope with worrisome thoughts or anxious feelings in social situations. Available evidence shows that the coping strategies children use to deal with anxiety significantly vary depending on their level of development (Carter & Crnic, 1991). Among children aged 5 to 12, Carter and Crnic (1991) found that as children become older, their cognitive coping strategies become more prevalent. As cognitive development progresses, children increasingly gain the ability to change the way in which they process threat-related events and situations. For example, Dodge (1989) contends that as children mature, they not only gain the capability to engage in selective abstraction and anticipation to avoid threatening stimuli, but they also become better at discriminating threatening and nonthreatening cues to ease unnecessary anxiety and prepare coping strategies. Nevertheless, research consistently shows that these attributes are impaired among socially anxious adults (MacLeod, Williams & Berkerian, 1991) and similar impairments may generalise to socially anxious children. Thus such biases as selective attention have the clear potential to play an important role in the maintenance of social anxiety especially consciously mediated processes.

It is believed that children who are hypersensitive to social anxiety also become convinced of their incompetence in coping with their reactions. For example, in social situations where socially anxious children believe they are incapable of dealing with their anxiety, they become hypervigilent for even subtle cues of criticism or negative evaluation and as a result, become anxious when they occur. Kendall and Ronan (1990) hypothesize that anxious children may misinterpret

environmental cues. Several studies have found that when presented with vignettes describing ambiguous situations, or word and sentences that may have several meanings anxious adults interpret these situations as more threatening than nonanxious adults (Butler & Mathews, 1983; Eysenck, MacLeod, & Mathews, 1987; Eysenck, Mogg, May, Richards, & Mathews, 1991). That is, distorted interpretations and perceptions of environmental cues become increasingly important in the aetiology and maintenance of childhood social anxiety.

A Developmental Theory of Social Anxiety

During childhood the development of cognition carries the potential for children to mediate social anxiety in a variety of social situations. The cognitive-developmental perspective as described above, suggests that developmental changes in social anxiety are based on changes in a child's cognitive skills and abilities. This empirical support is consistent with Buss' (1980) theory on the development of fearful and self-conscious (social anxiety) shyness. A focus of attention on oneself as a social object (public self-consciousness) is important for the experience of social anxiety. A major feature of socialization training is public self-awareness. That is, many children are taught that others are observing them, evaluating their appearance, manners, and other social behaviour. Rothbart and Mauro (1990) believe that it would be conceptually simpler to incorporate social anxiety (as related to evaluation) with the theory of self-conscious rather than fearful shyness, as self-conscious shyness develops later than infancy at a time when the child is able to comprehend and is aware of the evaluations of others. Similar to social anxiety, self-conscious shyness is a cognitive reaction requiring acute awareness of oneself as a social object which involves feeling excessively exposed to the scrutiny of others. On the other hand, fearful shyness is more of a physiological or somatic form of anxiety.

Buss suggests that self-conscious shyness is later-developing and involves the awareness of oneself as a social object. Further, he suggests this particular type of shyness involves extreme sensitivity of one's public self, inhibition or disorganisation of social behaviour when one is exposed to the scrutiny and evaluation of others. This kind of shyness emerges around the age of 5 years where the child possesses the appropriate

cognitive capabilities that enable him or her to have a sense of themselves as social beings. This is consistent with the development of children's cognition and the development of social anxiety, as described earlier. Self-conscious shyness may be the product of the combination between being scrutinized and being criticized or humiliated, as well as an individual's feeling of being conspicuous or uniquely different on the basis of race, gender, physical appearance, speech, manners, clothes, or other distinguishing attributes. Buss contests that self-conscious shyness is more likely to be elicited in formal situations that emphasise the status of the participants and that are public where one is open to the scrutiny of others and one's self-awareness.

The cause of self-conscious shyness is likely to be excessive socialization training in the importance of the social self (Buss, 1986). Some children are continually being reminded about how others are evaluating them, and how important proper appearance and manners are by their parents. After constant reminders of one's faults and misconducts, the child is likely to develop a negative sense of himself or herself as a social being and become extremely self-conscious. An empirical test by Bruch (1989) found that social phobics as opposed to agoraphobics reported greater public self-consciousness and were more likely than agoraphobics to label themselves as shy. This finding for acute self-consciousness among socially anxious persons is consistent with Buss' speculations that significant developmental changes in early adolescence may stimulate social evaluative concerns and disrupt success in social relations.

Cognitive-developmental explanations for the development of social anxiety combine intellectual development and social-emotional responses by suggesting that there are specific cognitive requirements for social discrimination. Self-conscious shyness involves public self-awareness and is believed by Buss to develop when the child has attained an "advanced, cognitive self" (Buss, 1985, p. 43). The social cognitive literature has suggested that a child's concept of the self develops approximately between the ages of 7 to 9 (Rholes & Ruble, 1984; Rotenberg, 1982). As children's cognition regarding the self becomes more sophisticated, Rothbart and Mauro (1990) suggest that they will become increasingly vulnerable to negative thoughts and evaluations associated

with their self-worth. Evidence suggests this is often the case (Darby & Schlenker, 1986; Harter, 1983).

With respect to temperament and social anxiety, it appears that early-developing, fearful shyness is temperamentally based whereas later-developing self-conscious shyness is much more a feature of personality (Rothbart & Mauro, 1990). An explanation for this is that self-conscious shyness is believed to be more strongly influenced and determined by experience, the epitome of the self, and is associated with a distinct cognitive framework. In contrast, fearful shyness is very early-developing and does not appear to be manipulated by the experience of criticism or ridicule.

Thus, in accordance with Buss' theory of the development of self-conscious and fearful shyness, children become capable of mediating social anxiety in social situations as the relevant cognitive structures and cognitive operations develop. In addition to developmental changes in the process of social anxiety, development in children's understanding of the self and of others contributes to changes in the content of their thoughts.

4. Experimental Design and Predictions

The present study has several major goals. Firstly, the symptoms associated with social anxiety are assessed in children to determine if social anxiety can be manifest in childhood. Secondly, several assumptions from Beck's (Beck, Emery, & Greenberg, 1985) cognitive theory of anxiety are tested. Of interest here is the relation between social anxiety and biased or distorted cognitive information-processing, and whether socially anxious children react with negative cognitive errors following different situations. From this, assumptions can be drawn regarding the role of the schemata in social anxiety. Thirdly, the relation between distorted information-processing and self-defeating cognitions and inhibitions (e.g., negative self-evaluations, self-statement patterns, attributions, etc.) is also examined. Inferences concerning the self-perceptions and self-concept of

socially anxious children can be made. No other studies to date have specifically examined the relationship between social anxiety, biased information-processing, and cognitions in children. The cognitive information-processing operations of socially anxious children are examined by the current study because the cognitive component which includes expectations of negative evaluation from others or from the self appears to be the primary factor of, and unique to the social anxiety construct.

Design Features

The current study assesses a sample of primary school students (9-11 years of age) on the basis of a screening inventory for characteristics associated with social anxiety in social situations. Children were divided into socially anxious and non-socially anxious groups depending on whether their anxiety score coincided with the low and high cutoff criteria. Both high socially anxious children and low socially anxious children completed two cognitive performance tasks, a mathematics test and an impromptu speech. The design of this study was strengthened by making use of two different anxiety-eliciting situations: one social (impromptu speech), and one social-academic (mathematics test). Prior to, and following each task, the children were asked to complete a performance questionnaire. This questionnaire assessed each child's expectations and self-evaluations of their performance on the mathematics test and the speech. Following this, the children were asked to complete three questionnaires which assessed the cognitive processing of information and their cognitions and inhibitions in social situations using interpretations of ambiguous scenarios. The technique of using hypothetical events in this type of research has some support (Arnkoff & Glass, 1989). In addition, the children's teacher was also asked to complete a questionnaire that assessed the behaviour of each child in the classroom.

The present study makes use of a within subjects design, and the sample was drawn from a population of primary school students. The design incorporates a naturalistic setting, using the school environment and aspects of the analyses are correlational. The study is also longitudinal to the extent that variables are measured before and after two different

cognitive tasks, a mathematics test and an impromptu speech. The nature of this design has an advantage in that the relationships between the individual difference measures (social anxiety), and the various cognitive information-processing variables (negative cognitive errors e.g., catastrophizing, selective abstraction, overgeneralizing, etc.) following negative events can be examined, and their possible effects on cognition (e.g., negative evaluations, maladaptive attributions, negative self-statement patterns, etc.) can be determined.

Summary of Predictions

Social Anxiety

1. Participants who experience extreme forms of anxiety in social-evaluative situations will score significantly higher on the Social Phobia and Anxiety Inventory (SPAI, see Appendix I) (Turner, Dancu, & Beidel, 1984) than participants who do not experience social anxiety in social interactions.

2. Participants who are highly socially anxious will display more biases or distortions in cognitive information-processing for negative events as measured by the Children's Negative Cognitive Error Questionnaire (CNCEQ, see Appendix III) (Leitenberg, Yost & Carroll-Wilson, 1986) than children who are not socially anxious.

3. High socially anxious children will report a higher proportion of negative self-statements than children low in social anxiety.

4. Children who are highly socially anxious will report a lower quantity of positive self-statements than children low in social anxiety.

That is, compared to non-socially anxious children, socially anxious children will report more negative self-statements than positive self-statements regarding themselves and their performance.

5. Children high in social anxiety will report overly negative expectations and evaluations of their social performance on the mathematics test and impromptu speech than low socially anxious children.

6. High socially anxious participants will report significantly less positive expectations and evaluations than non-socially anxious participants regarding their social performance on the mathematics test and the impromptu speech.

That is, high socially anxious children will underestimate positive aspects of their performance and overestimate negative aspects compared with low socially anxious children.

7. Socially anxious children will report pathological patterns of attribution for the causes of social success and failure. More specifically, they will report more stable, internal, and global attributions for failure and more unstable, external, and specific attributions for success than their non-socially anxious peers.

Cognitive Information-Processing

1. Participants who negatively distort the processing of information will display a pattern of self-defeating negative cognitions regarding themselves and their performance in social-evaluative situations.

Cognitive Products/Automatic Thoughts

1. Children who report significantly more negative cognitions will show impairments in performance on the mathematics test.

The current study sought to test these predictions concerning the cognitive information-processing operations of socially anxious and non-socially anxious children and draw inferences regarding their self-perceptions and self-concept in social situations.

Method

Participants

One hundred twenty-seven children attending Standard-3 and Standard-4 in six public primary schools in the Christchurch area participated in this study. These children were selected from schools that agreed to take part in the study. Participants were recruited on a volunteer basis with parents giving consent for their child's participation. These children were asked to complete a modified version of the Social Phobia and Anxiety Inventory (SPAI, see Appendix I) developed by Turner, Dancu and Beidel (1984). This measure specifically identifies those children who experience symptoms characteristic of social anxiety. The children were divided into socially anxious and non-socially anxious groups on the basis of the SPAI screening inventory. Conservative cutoff scores were used to minimise the percentage of false positive and negative rates. A score less than 30 on the SPAI met the criteria for inclusion into the non-socially anxious group and scores greater than 70 constituted the socially anxious group (Turner, Beidel, Dancu, & Stanley, 1989). Six participants failed to complete the survey correctly and were excluded from the study. The mean age of both the socially anxious children and the non-socially anxious children in this sample was 9.7 and 10.0 years, respectively. The screening survey identified a final sample consisting of 51 children, 27 boys and 24 girls.

Materials

The aim of this study was to investigate the cognitions of socially anxious children, especially the way in which they think about, and perceive themselves and their performance compared to non-socially anxious individuals. It was expected that socially anxious children would have overly negative distortions about themselves and their performance. More specifically, they would display negative self-statement patterns,

negative self-evaluations of themselves and their performance, and attributional styles similar to those displayed by depressed individuals. Therefore, the tests used in this study were chosen not only to identify socially anxious children from non-socially anxious children, but also to identify and measure any differences in cognition that exist between these two groups. The test battery used is as follows:

1. Assessment of Social Anxiety

Social Phobia and Anxiety Inventory

The Social Phobia and Anxiety Inventory (SPAI, see Appendix I) (Turner, Dancu, & Beidel, 1985) is a 45-item instrument designed to assess the severity of specific somatic symptoms and cognitions associated with social anxiety and social phobia. The SPAI also measures avoidance and escape behaviours across a wide range of fear-producing social situations. Specifically, the SPAI was designed as a more specific measure of social anxiety in an adult population however, it was modified accordingly for a sample of children. The SPAI has been used in clinical psychology and psychiatry to assess the intensity of social anxiety in psychiatric patients (Beidel, Borden, Turner, & Jacob, 1989), and for detecting possible social anxiety in normal populations (Turner, Beidel, Dancu, & Stanley, 1989). The inventory has high test-retest reliability and good internal consistency (Turner, Beidel, Dancu, & Stanley, 1989). In the present study, the SPAI specifically identified and differentiate those children who experience the characteristics associated with social anxiety in social situations from children who do not experience symptoms of anxiety when engaging in social situations. This allowed the current study to compare socially anxious children with non-socially anxious children for any possible differences on measures of cognition.

2. Cognitive Assessment

Children's Negative Cognitive Error Questionnaire

The Children's Negative Cognitive Error Questionnaire (CNCEQ, see Appendix III) (Leitenberg, Yost & Carroll-Wilson, 1986) is a 24-item measure of four types of negative cognitive errors drawn from Beck's

(1976, 1979) cognitive theory of depression. The 4 types of negative cognitive errors assessed by the CNCEQ are: (1) selective attention or selectively focusing on negative features of an event; (2) overgeneralization or global predictions of negative outcomes and applying these to situations in general; (3) catastrophizing or dwelling on the worst possible outcome of an event and overestimating the probability of its occurrence; and (4) or personalization incorrectly taking personal responsibility for negative consequences. Leitenberg, Yost, and Carroll-Wilson, (1986) report on the psychometric properties of the CNCEQ with high internal consistency. This study found that depressed, low self-esteem, and high evaluation-anxiety children are more likely to endorse Beck's (1979) negative cognitive errors than their non-depressed, high self-esteem and low evaluation-anxiety counterparts. The study also demonstrated that the scale was applicable for use with anxious children. Use of this inventory allowed one to detect any possible differences and distortions in cognitive information-processing between socially anxious and non-socially anxious children in the current study.

Social Interaction Self-Statement Test

The Social Interaction Self-Statement Test (SISST, see Appendix IV) (Glass, Merluzzi, Biever, & Larsen, 1982) assesses negative and positive self-statements relevant to social interaction situations. The measure consists of 30 items, half of which assess the frequency of negative thoughts (e.g., "I hope I don't make a fool of myself"), while the other half assess the frequency of positive thoughts (e.g., "We probably have a lot in common"). Participants are asked to indicate how frequently they have each thought in a social situation. Frequency ratings are summed to yield positive and negative self-statement composite scores. Zweig and Brown (1985) report adequate internal consistency and concurrent validity for both positive and negative subscales following an imagined stimulus situation. Furthermore, negative thoughts on the SISST were significantly correlated with social anxiety, fear of negative evaluation and public self-consciousness. The SISST has also been shown to discriminate socially anxious from non-socially anxious individuals (Beidel, Turner, & Dancu, 1985; Glass, Merluzzi, Biever, & Larsen, 1982; Turner, Beidel, & Larkin, 1986). The SISST is the most frequently used structured self-

statement instrument in social anxiety research (Arnkoff & Glass, 1989). Although this questionnaire was designed to assess an adult population, it was altered to address a group of children. The SISST enabled the current study to assess the frequency of derogatory and facilitative self-statements and self-thoughts of socially anxious and non-socially anxious children in social situations.

Children's Attributional Style Questionnaire (CASQ)

The Children's Attributional Style Questionnaire (CASQ, see Appendix V) (Kaslow, Tanenbaum, & Seligman, 1978) was used to evaluate the way in which children attribute causality to good and bad events. The CASQ consists of 24 items. Each item contains a hypothetical situation (e.g., "You get good grades") and two attributions explaining why each event might have occurred (e.g., "I am a hard worker" vs. "Schoolwork is simple"). Children are asked to choose the alternative that best describes why the event happened to them. Half of the situations represent "good" outcomes and half of the situations represent "bad" outcomes. Eight questions apply to each of the three attributional dimensions - internality, stability, and globality. The CASQ has six basic subscales with four items on each: (1) Good-Internal/External, (2) Good-Stable/Unstable, (3) Good-Specific/Global, (4) Bad-Internal/External, (5) Bad-Stable/Unstable, (6) Bad-Specific/Global. Data gathered from each of the six subscales plus the overall composite score were individually analysed to provide more specific information on the participant's attributional style. The use of this scale permitted the current study to investigate any differences that may exist between socially anxious and non-socially anxious children in terms of attribution style for the consequences of events. More specifically, to determine if socially anxious children would react to negative outcomes with more internal, stable, and global attributions than non-socially anxious children, and more external, unstable, and specific attributions for successful outcomes than their non-socially anxious peers.

3. Behavioural Assessment

Social Interaction Rating Scale (SIRS)

The Social Interaction Scale (SIRS, see Appendix VI) (Hops, Fleishman, Guild, Paine, Street, Walker, & Greenwood, 1978) is a teacher rating scale specifically designed to assess social withdrawal. The behaviour rating scale is an 8-item scale developed as part of a programme for withdrawn children (Hops et al., 1978). Teachers are asked to rate on a 7-point scale how "true" or "descriptive" each item is to a child's behaviour. Hops, et al. (1978) found that this scale successfully discriminated between children referred for social withdrawal and their other classmates. The Social Interaction Scale (SIRS) provided additional behavioural evidence of the differences that may exist between socially anxious and non-socially anxious children in the present study.

4. Self-report Ratings

Performance Questionnaire

Each child that participated in the current study was asked to complete a mathematics test and a short impromptu speech about any self-selected topic. A brief performance questionnaire was used to assess each child's expectations and evaluations before and after each test situation. The performance measure was adopted from the Children's Cognitive Assessment Questionnaire (CCAQ-R, see Appendix VII) (Zatz & Chassin, 1983) using only the positive and negative evaluation and expectation items. The scale included 12 items, half of which assess positive expectations and half assess negative expectations. Participants were instructed to rate on a 4-point scale their expectations of their performance both before and after the mathematics test and the speech. Scores were obtained by summing subject ratings separately, for both the positive expectations and the negative expectations. Use of this performance questionnaire enabled the current study to determine any differences between socially anxious children and non-socially anxious children in

expectations and self-evaluations for performance on both of the mathematics test and impromptu speech.

In general, use of this test battery permited the study of cognitive information-processing operations of socially anxious children and to identify any possible differences that may exist between the socially anxious children and non-socially anxious children. It also allowed the present study to draw inferences regarding the self-perception and self-concept of socially anxious children in social situations.

Procedures

All of the testing was conducted at the children's school. The initial screening procedure (lasting approximately 50 minutes) involved administering the modified Social Phobia and Anxiety Inventory (Turner, Dancu, & Beidel, 1984) to those children whose parents had previously provided written consent. The questionnaire was explained in a manner the children would have little difficulty completing it. Additionally, a page of definitions (see Appendix II) was provided which included words from the questionnaire and their meanings to clarify any ambiguities. The children were informed that they should answer honestly and that there were no right or wrong answers. They were also told that their answers were confidential.

The second stage of the testing (lasting approximately 90 minutes), which commenced at least one week later, was completed in small groups. Participant scores on the SPAI were used as the criterion for assignment of children to either socially anxious or non-socially anxious groups. The children were asked to perform two cognitive tasks to determine if their expectations about their performance corresponded to their actual level of social skill. These tasks consisted of a mathematics test and an impromptu speech. The mathematics test comprised 12 questions. The test questions corresponded to the level of difficulty appropriate to the children's academic level. Prior to beginning, the participants were told that their score would be compared with those of the other children participating in the study therefore, it was important that they work alone. As a group, the children were given 15 minutes to complete as much of the test as

possible. The children were also asked to make an impromptu speech upon any self-selected topic with the experimenter and sample children serving as the audience. Prior to the beginning, the participants were given a 3-minute period in which to determine a topic for presentation and were also told that their speech would be compared with those of the other children. Each child then delivered a 2-minute impromptu speech. Before and after each task, the children completed a performance questionnaire to assess their expectations and evaluations for each test. Following the mathematics test and the impromptu speech the children were also asked to complete the self-report measures previously described.

Results

1. General Description of Data

Of the 127 children who participated in this study, 28 (22% of the total sample originally assessed) met criteria for a diagnosis of social anxiety, a prevalence figure which is similar with data on social anxiety from other sample populations (Beidel, Turner, Stanley, & Dancu, 1989). Twenty-three children of the sample served as the non-socially anxious group, based upon their lower than 30 SPAI cutoff score. Analysis of variance comparing socially anxious and non-socially anxious children revealed that there was a significant age difference between the two groups, $F(1, 51) = 4.32$, $p < .05$. The analysis showed the children having high social anxiety scores are younger than their non-socially anxious counterparts. The mean age for the socially anxious group was 9.7 years, compared with the non-socially anxious group who averaged 10.0 years of age. There were no significant gender differences found between the socially anxious children and the non-socially anxious children ($p > .05$). Generally, the socially anxious group consisted of equal proportions of both boys and girls, whereas the non-socially anxious group had slightly more boys (57%) than girls (43%) but was not enough to be significant.

TABLE 1
SCORES OF SOCIALLY-ANXIOUS AND NON-SOCIALLY-ANXIOUS CHILDREN ON THE SPAI
SOCIAL PHOBIA SUBSCALE, AGORAPHOBIA SUBSCALE AND TOTAL SCORE

	Socially-Anxious			Non-Socially-Anxious		
SPAI	Males (n = 14)	Females (n = 14)	Total (n = 28)	Males (n = 13)	Females (n = 10)	Total (n = 23)
Social Phobia Subscale	103.50	104.01	103.76	32.81	46.02	38.55
Agoraphobia Subscale	23.79	23.36	23.57	21.39	24.80	22.87
Total Score	79.72	80.63	80.17	11.74	21.22	15.86

Table 1 presents the mean scores for both the socially anxious children and the non-socially anxious children on the two subscales and the total SPAI screening inventory. Scores on each of the social phobia subscale, agoraphobia subscale, as well as the SPAI total scores were analysed using one-way analyses of variance. On the social phobia subscale there was a main effect for group, $F(1, 50) = 186.43$, $p < .0001$. Socially anxious participants scored significantly higher than children who do not experience social anxiety. There were no significant differences found between the socially anxious children and the non-socially anxious children on the agoraphobia subscale, ($p > .05$). Finally, the results of the analysis for the SPAI total score revealed a significant main effect for group, $F(1, 50) = 608.17$ $p < .0001$. That is, socially anxious children scored significantly higher on the SPAI than their non-socially anxious counterparts. Preliminary analysis also showed no significant gender differences.

2. Means and Standard Deviations for all Variables

Table 2 displays the group means and standard deviations of each of the measures used in this study. Each of these data sets were analysed with a two-way analyses of variance. The results of these analyses are also presented in Table 2. These analyses revealed significant differences between the socially anxious and non-socially anxious groups on the CNCEQ, SISST, CASQ, and the SPAI, with socially anxious children scoring considerably higher on the CNCEQ, SISST, and SPAI, and lower on the CASQ measure. Moreover, socially anxious and non-socially anxious children differed significantly on the total scale of the CNCEQ. Table 2 shows that socially anxious children endorsed more negative distortions in thinking in response to ambiguous or negative events than non-socially anxious children. In general, the socially anxious group had higher mean scores for all subscales of the CNCEQ. Analysis of variance revealed the two groups significantly differed in the type of error, especially personalization, $F(1, 50) = 8.55$, $p < .005$ and selective abstraction, $F(1, 50) = 6.49$, $p < .01$ and also the content area, notably academic

competence, $F(1, 50) = 7.03$, $p < .01$ and athletic competence, $F(1, 50) = 5,17$, $p < .03$.

TABLE 2

MEANS AND STANDARD DEVIATIONS FOR SOCIALLY ANXIOUS AND NON-SOCIALLY ANXIOUS CHILDREN ON COGNITIVE MEASURES OF SELF-REPORT

	Socially Anxious (n = 28)		Non-Socially Anxious (n = 23)			
Measure	Mean	SD	Mean	SD	F	p
CNCEQ						
Catast	17.11	4.53	15.09	6.56	1.681	ns
Over	16.18	4.56	14.36	5.78	1.755	ns
Pers	18.79	4.71	14.35	6.13	8.546	.0052
SA	17.21	3.79	13.96	5.33	6.491	.014
Social	23.46	5.38	20.52	8.17	2.380	ns
Academic	23.11	5.74	18.57	6.49	7.027	.0108
Athletic	22.71	5.67	18.57	7.72	5.167	.0253
TOTAL	69.29	14.68	57.65	21.23	5.323	.0253
SISST						
Positive	43.04	7.34	44.74	10.84	.444	ns
Negative	48.32	9.41	34.74	9.19	26.867	.0001
CASQ						
I+	2.32	.98	2.22	1.09	.129	ns
S+	1.89	1.13	2.48	1.28	3.011	ns
G+	1.89	.99	2.52	.90	5.509	.023
CP	6.11	2.30	7.22	1.83	3.521	ns
I-	1.00	.82	1.09	.95	.124	ns
S-	1.96	.92	1.17	.89	9.599	.0032
G-	1.36	1.16	1.00	.80	1.565	ns
CN	4.32	1.89	3.26	1.32	5.173	.0274
COMP	1.79	3.33	3.96	2.50	6.693	.0127
SIRS	34.61	8.18	38.61	11.25	2.159	ns
SPAI						
SP subsc	103.76	13.58	38.55	20.37	186.430	.0001
AG subsc	23.57	10.78	22.87	18.85	.028	ns
Total	80.17	5.89	15.86	12.20	608.167	.0001

Comparison of mean scores on the SISST revealed socially anxious children had significantly more negative self-statements than their non-socially anxious counterparts. There were no significant differences between the two groups in terms of positive self-thoughts experienced in specific situations. In addition, scores on the CASQ showed socially anxious participants displayed an attributional style similar to that demonstrated by depressed individuals, with an overall negative attribution style for explaining events. Finally, there were no significant results demonstrated by the SIRS.

3. Social Anxiety and Cognitive Information-Processing: Negative Cognitive Errors

Children's Negative Cognitive Error Questionnaire

Beck's (Beck, Emery, & Greenberg, 1985) cognitive theory implies that faulty cognitive thinking, especially negatively biased thinking styles play a key role in the development and maintenance of anxiety. Furthermore, it is assumed that these individuals make cognitive errors, collectively known as distortions in response to ambiguous or unfamiliar circumstances. As a consequence, they have negatively-biased and self-defeating patterns of interpreting events.

Table 2 shows children with high social anxiety endorsed more negative cognitive errors than children who were not socially anxious. Analysis of variance showed significant differences were found between the socially anxious group and the non-socially anxious group on the CNCEQ, $F(1, 50) = 5.32$, $p < .03$. Analysis also revealed significantly higher scores for the socially anxious group with regard to the type of negative cognitive error. High socially anxious children engaged in significantly more personalizing and selective abstraction than non-socially anxious children, $F(1, 50) = 8.55$, $p < .005$, and $F(1, 50) = 6.49$, $p < .01$, respectively.

The two groups also differed in terms of the quantity of distortions in specific content areas. Analysis revealed socially anxious children engage in significantly more cognitive distortions in both the academic, $F(1, 50) = 7.03$, $p < .01$, and athletic, $F(1, 50) = 5,17$, $p < .03$, content areas.

4. Social Anxiety and Cognition

Of primary interest here were the relations between social anxiety and cognition. Separate one-factor analyses of variance were calculated for each cognitive measure. This series of analyses revealed significant results between socially anxious children and non-socially anxious children on the cognitive self-report instruments.

Social Interaction Self-Statement Test

It was predicted that socially anxious children would experience a higher proportion of negative self-statements about themselves and their performance compared with non-socially anxious children. That is, in contrast to non-socially anxious children, socially anxious children will report more negative self-statements than positive self-statements regarding themselves and their performance.

The means and standard deviations for the SISST-N are presented in Table 2. A one-way ANOVA showed a significant difference between the two groups on the negative subscale of the SISST, $F(1, 50) = 26.87$, $p < 0001$. As expected, the socially anxious children reported significantly higher scores than the non-socially anxious children on the negative subscale of the SISST. That is, children who are highly socially anxious experience a higher proportion of negative self-statements or self-thoughts about themselves and their performance than non-socially anxious children. All other results were non-significant.

Performance Questionnaire: Assessment of Cognitions during the Behavioural Tasks

Scores from the performance questionnaires were analysed using two-factor (Social Anxiety and Time of Testing) repeated-measures analysis of variance. It was expected that socially anxious children would underestimate positive aspects of their behaviour and overestimate negative aspects of their behaviour. That is, they will report significantly more negative evaluations of social performance and fewer positive evaluations than low socially anxious children. Thoughts were categorised as positive and negative evaluations or expectations in terms of their relationship to the specific task. Results demonstrated a

significant difference in positive and negative evaluations, before and after both the mathematics test and the impromptu speech.

Mathematic test - performance evaluations

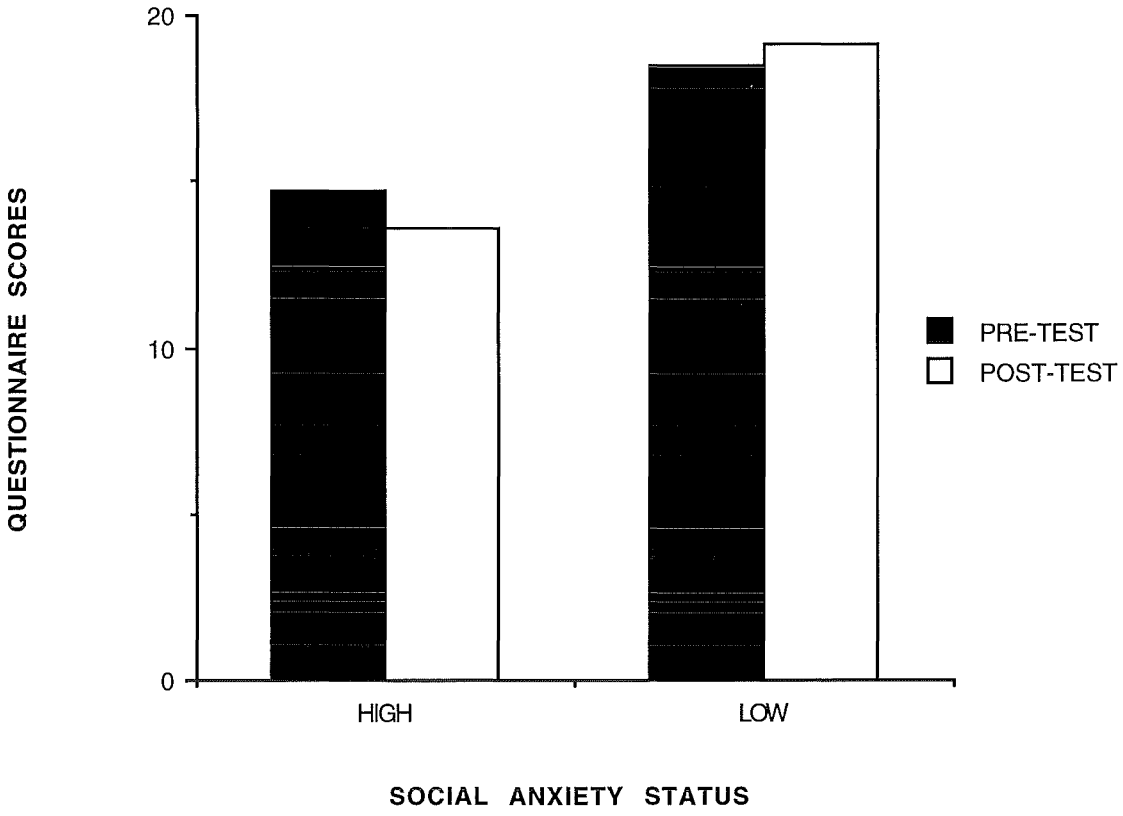

FIGURE 2. POSITIVE EVALUATIONS OF PERFORMANCE ON THE MATHEMATICS TEST BY SOCIALLY ANXIOUS AND NON-SOCIALLY ANXIOUS CHILDREN.

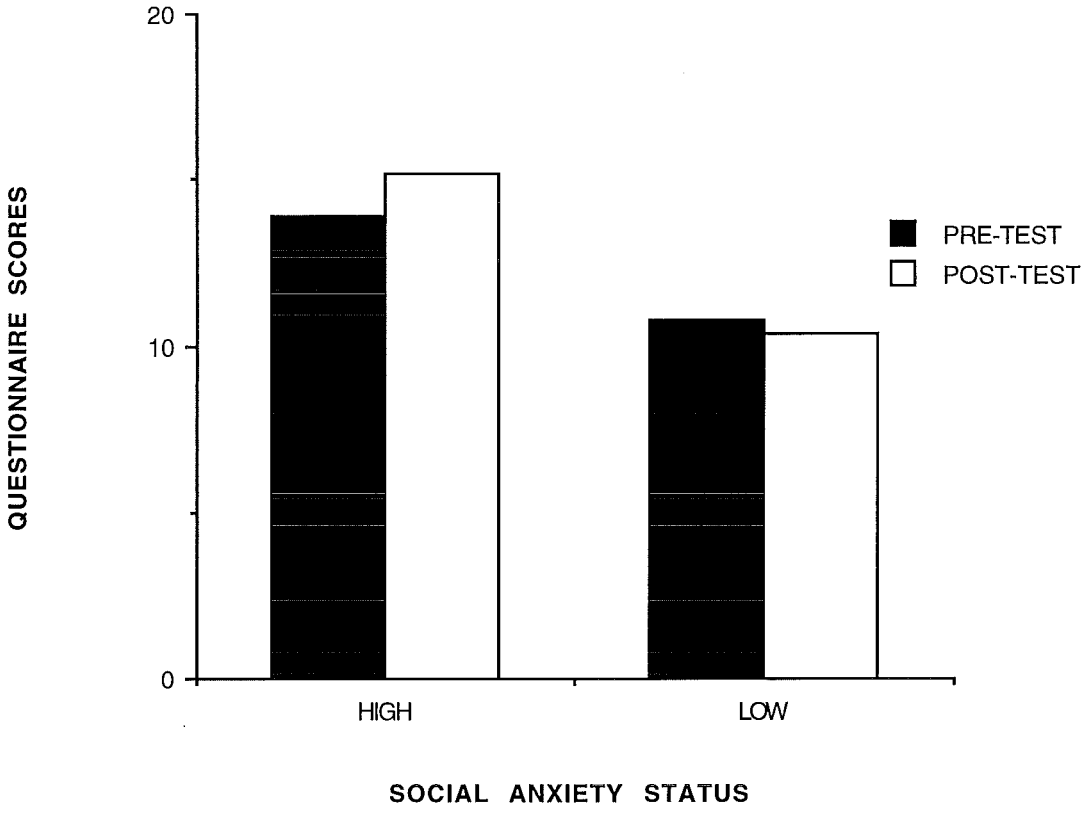

FIGURE 3. NEGATIVE EVALUATIONS OF PERFORMANCE ON THE MATHEMATICS TEST BY SOCIALLY ANXIOUS AND NON-SOCIALLY ANXIOUS CHILDREN.

The mean scores of the high- and low-socially anxious children on the positive and negative subscales of the performance evaluation measure for the mathematics test are presented in Figures 2 and 3. Analysis of these data demonstrates a significant main effect for social anxiety with socially anxious children having significantly fewer positive evaluations of their performance, $F(1, 49) = 18.72$, $p < .0001$. Results also showed evidence of a significant Social Anxiety and Time of Testing interaction for positive evaluation of the mathematics test, $F(1, 49) = 4.12$, $p < .05$. After the mathematics test was completed, the positive evaluations made by socially anxious children regarding their performance declined from pre-test to post-test, whereas positive

evaluations made by non-socially anxious children increased even further from pre-test to post-test, after they had performed the mathematics test.

Moreover, socially anxious children made significantly more negative evaluations of their performance on the mathematic test, $F(1\ 49) = 19.03$, $p < .0001$. A significant Social Anxiety and Time of Testing interaction was also found for negative evaluations of the mathematics test, $F(1, 49) = 5.45$, $p < .02$. After the mathematic test was completed, negative evaluations made by socially anxious children concerning their performance escalated from Time 1 to Time 2, whereas negative evaluations made by non-socially anxious children dramatically decreased even more after they had finished the task. This finding supports the hypothesis that socially anxious children systematically underestimate positive aspects of the behaviour and overestimate negative aspects of their performance.

Differences in ability

Mathematical ability varied between the six schools with mean scores ranging from 7.14 to 2.63. Analysis of variance demonstrated a significant difference in mathematical ability between the six primary schools, $F(5, 50) = 4.64$, $p < .002$. However, analysis revealed there were no significant differences in ability between socially anxious and non-socially anxious children for the mathematics test ($p > .05$). There were also no significant differences in ability between boys and girls, or significant age differences.

Impromptu speech - performance evaluations

Two-factor (Social Anxiety and Time of Testing) repeated-measures analysis of variance showed a significant difference between the evaluations made by socially anxious and non-socially anxious children regarding the impromptu speech. The mean scores of the negative performance evaluations for socially anxious and non-socially anxious children are displayed in Figure 4. Socially anxious children gave significantly more negative evaluations of themselves and their performance than non-socially anxious children, $F(1, 49) = 35.38$, $p < .0001$. Furthermore, a significant Social Anxiety and Time of Testing interaction for the impromptu speech was found, $F(1, 49) = 5.24$, $p < .03$. Negative

evaluations made by socially anxious children increased even further after they gave a speech compared with the negative evaluations made by non-socially anxious children which remained constant from pre-test to post-test.

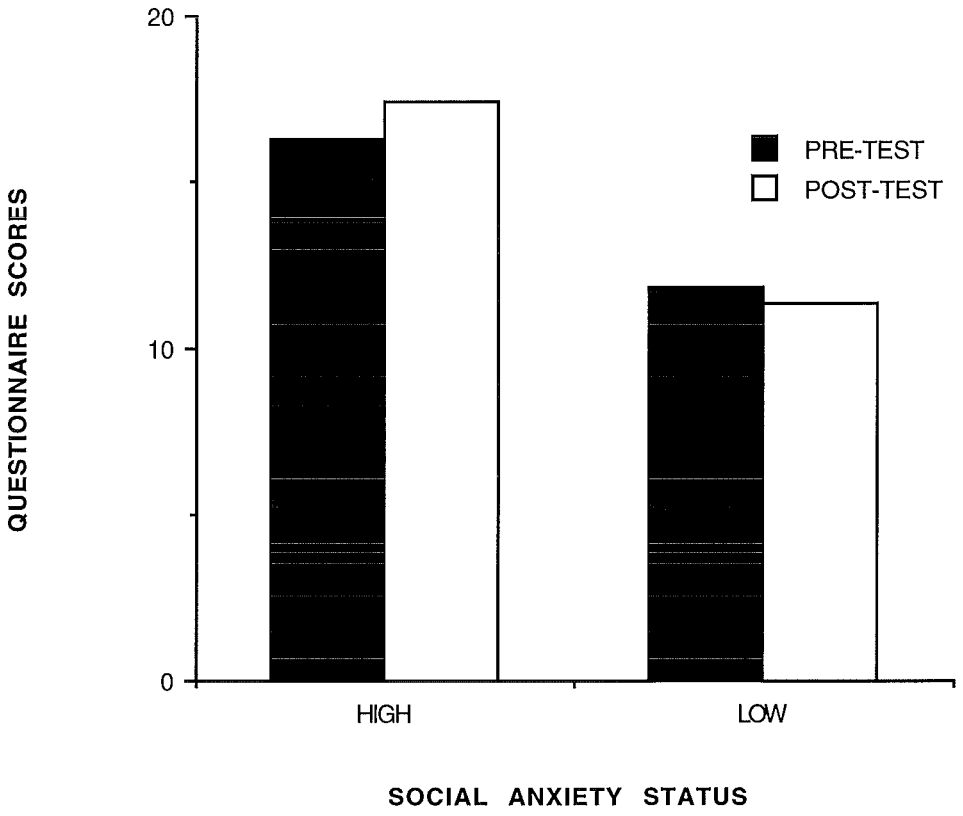

FIGURE 4. NEGATIVE EVALUATIONS OF PERFORMANCE ON THE IMPROMPTU SPEECH BY SOCIALLY ANXIOUS AND NON-SOCIALLY ANXIOUS CHILDREN

Children's Attributional Style Questionnaire

The present study hypothesized that socially anxious children would report pathological patterns of attribution regarding the causes of events, compared with children who are not socially anxious. More specifically, they would report more internal, stable, and global attributions for negative events and more external, unstable, and specific attributions for positive events.

Participants in both groups were examined for their dominant attributional preferences. Socially anxious and non-socially anxious children differed significantly on the CASQ. Analysis of variance comparing the socially anxious and non-socially anxious groups revealed significant differences on the total CASQ attribution scale, $F(1, 50) = 6.69$, $p < .01$. Socially anxious children adopt a much more depressive explanatory style for events compared with non-socially anxious children. Subsequent analysis also showed significant inconsistencies between the two groups on both of the CASQ composite subscales. Group differences were significant for the negative composite scale, $F(1, 50) = 5.14$, $p < .03$. The most appropriate interpretation of the anxiety main effects is that the non-socially anxious group made more global attributions for positive outcomes of situations than the socially anxious group, $F(1, 50) = 5.51$, $p < .02$. In addition, children who were highly socially anxious made significantly more stable attributions for negative consequences of situations, $F(1, 50) = 9.60$, $p < .003$.

5. School Effects

A series of two-factor (School and Social Anxiety) ANOVAs demonstrated statistically significant interactions between social anxiety and primary school for some of the error types, content areas and total distortion scale of the CNCEQ. A significant interaction was found between Primary School and Social Anxiety for the total distortion score of the CNCEQ, $F(5, 39) = 3.49$, $p < .01$. Levels of social anxiety and the different schools interacted in causing negative cognitive errors.

Error analysis of the data also demonstrated a significant Social Anxiety and Primary School interaction. Analysis revealed an interaction effect for catastrophizing, $F(5, 39) = 4.56$, $p < .002$. Results also revealed a significant Social Anxiety and School interaction for overgeneralizing, $F(5, 39) = 3.46$, $p < .01$.

A significant Primary School and Social Anxiety interaction was found for two of the three content areas of the CNCEQ. The present analysis revealed a significant interaction for the social competence area, $F(5, 39) = 3.14$, $p < .02$. There was also a School and Social Anxiety interaction for the academic competence area, $F(5, 39) = 3.14$, $p < .02$.

Discussion

In accordance with cognitive theory, children who experienced specific symptoms of anxiety associated with social situations scored significantly higher on the total Social Phobia and Anxiety Inventory than children who did not experience feelings of anxiety anticipating, or during social interactions. This result is similar to those of previous studies (Beidel, Turner, & Dancu, 1985). Higher scores on the Social Phobia and Anxiety Inventory reflect the threat-related content of the dominance schemata associated with the fear of negative evaluation and scrutiny of the social self in social situations. The fundamental difference between socially anxious and non-socially anxious children was in terms of the frequency and intensity of social anxiety symptoms, how these symptoms are interpreted cognitively, and also one's perceived control over anxiety. The details of these differences in self-perceptions will become clear later on as the current study examines cognitive information-processing, attentional bias, expectancies, attributions, self-evaluations, memories, and so on.

Childrens' perception of themselves and their environment is more important in understanding his or her development than his or her actual behaviour. Of great interest to the present study was the self-perceptions socially anxious children have about themselves and their performance on two tasks of cognitive abilities. According to Beck's (Beck, Emery, & Greenberg, 1985) theory of anxiety, their reportable cognitions, thoughts, and ideas regarding themselves and their performance, are the consequences of cognitive processes, an information-processing operation.

Cognitive Information-Processing

Children's Negative Cognitive Error Questionnaire (CNCEQ)

In accordance with Beck, Emery, and Greenberg's (1985) theory of anxiety, socially anxious children were expected to make systematic biases in information processing known as negative cognitive errors or distortions in response to ambiguous or negative circumstances. Beck's (1985) theory has received limited attention with regard to evaluation-

anxious children (Leitenberg, Yost, & Carroll-Wilson, 1986). The present study revealed that socially anxious children endorsed more negative cognitive errors more strongly than did their non-socially anxious counterparts. This is consistent with results from other studies (Leitenberg, Yost, & Carroll-Wilson, 1986). According to Beck's theory, one may surmise that the dominance schemata of socially anxious children are characterised by their hypervalent threat or vulnerability content. The activity of these modes is reflected in the typical thinking disorder characteristic of socially anxious children. As a result of the biased selection and processing of information, the socially anxious child makes errors or selective distortions such as misinterpretation, overgeneralization, and exaggeration from the time of perception to recall. These bias and distortions may be the consequences of, and help to confirm and strengthen maladaptive schemas while repressing more adaptive schemas that are inconsistent with these distortions. In social anxiety, the schemata used for processing threat to oneself such as negative evaluation, rejection, humiliation, criticism and so on are vigilant whereas schemata relevant to 'safe' information are inactive.

There are a number of differences in the way socially anxious and non-socially anxious individuals interpret information and several of these are thought to result from different types of cognitive processing. It should be emphasized that stronger endorsement of each type of cognitive error was unique to children who scored on the high end of the Social Phobia and Anxiety Inventory. Socially anxious children as a group, engaged in significantly more personalizing and selective abstraction in both the academic and athletic context areas than children who were not socially anxious. In support of Beck's theory, not only did socially anxious children display an attentional bias by selectively attending to the negative aspects of their experiences, but they also took more personal responsibility for the negative consequences of events than their non-socially anxious peers. Selectively attending to, and/or emphasizing past or anticipated failures will contribute to a cognitive process that maintains this negative, self-defeating cycle. Therefore, in light of these systematic differences, it seems fair to conclude that high socially anxious children are more likely to indulge in the negative cognitive errors described by Beck, Rush, Shaw, and Emery (1979) than their non-socially anxious peers.

Can one conclude that this provides a foundation for speculating that socially anxious children have a unique faulty logical thinking process? An important feature of the processing of information by socially anxious individuals is the lack of perspective related to this automatic processing. The thoughts and perceptions steming from automatic cognitive processing are usually accepted as reflecting reality by the socially anxious individual. These exaggerated perceptions of internal and external threat are not doubted by the socially anxious person. Ingram and Kendall (1988) recognize that some degree of automatic processing is an essential ingredient of proficient functioning. They also conclude that a distinguishing characteristic of the processing of information by anxious and non-anxious individuals is the ability to engage in metacognition in the necessary circumstances. That is, although non-anxious persons also at times accept the negative automatic thoughts and perceptions that may occur in particular situations, unlike anxious persons, non-anxious individuals have the necessary means and adaptability to consider the accuracy or inaccuracy of their cognitions.

It may also be possible that non-socially anxious children distort more, if not more so, than socially anxious children in a positive or self-enhancing manner instead of the predominantly negative or self-deprectory way characteristic of socially anxious persons (Leitenberg, Yost, & Carroll-Wilson, 1986). Leitenberg, Yost, and Carroll-Wilson (1986) suggest that both the socially anxious group and the non-socially anxious group may make similar errors in their judgement, but in opposite directions. More precisely, non-socially anxious children may be susceptible or predisposed to distort information in a positive manner, or to "look through rose-coloured glasses" (Leitenberg, Yost, and Carroll-Wilson, 1986, p. 534), whereas socially anxious children seem to distort information in a negatively biased direction. Some support has been found for this theory with depressed adults who do have an overly negative view of events but also a more realistic view than a comparison group of normal participants (Strack & Coyne, 1983). The social psychological literature has also emphasized that most children and adults perceive themselves in a personally biased or self-enhancing manner e.g., the hypothesized 'self-serving bias' (Myers, 1990).

Consistent with Beck's theory, this suggests that socially anxious children show an attentional shift towards threat-related stimuli in social

situations. These results demonstrate that socially anxious children will automatically and selectively attend to threatening stimuli in their social environment. In support of Beck's theory, socially anxious individuals show a hypervigilance for threat and danger cues within their social environment. Furthermore, studies on self-efficacy (Bandura, Adams, & Beyer, 1977) have shown that when confronted with a feared situation, anxious individuals report a heightened sense of vulnerability and underestimate their ability to cope with the situation.

School Effects:

The present study also found a significant interaction for School and Social Anxiety for the Children's Negative Cognitive Error Questionnaire. The basis of this interaction was that there was a greater difference between the high-socially anxious children and low socially anxious children from schools in the higher socio-economic school districts. In contrast, there were few differences between the high socially anxious and low socially anxious children attending school in the lower socioeconomic districts. Thus, the differences observed between the schools on the Children's Negative Cognitive Error Questionnaire scale seem to vary as a function of the childrens' socioeconomic status. This supports Beck et al.'s (1985) contention that anxious individuals' perceptions are influenced by the environment. It may have been the case that children from high socioeconomic backgrounds are quite practiced at social comparisons in order to determine their social position. Children from the lower socioeconomic backgrounds may have stopped making such a through social comparison because their past efforts may have led them to the permanent conclusion that their efforts are substandard.

Socially anxious children are locked into a constant search for social cues such as certain facial expressions that indicate hostile appraisals of his or her self-presentation behaviour. They will interpret any signs of negative evaluation, mistakes, or weaknesses in the worst possible way which serves to aggravate the problem. Furthermore, even when they are performing well in social situations, they nevertheless anticipate that they will look stupid and be criticised or negatively evaluated by others. Such catastrophic predictions exacerbate inhibitions and lead to tentativeness,

ineptness, or withdrawal. This self-focus interferes with one's behaviour and increases one's sense of vulnerability.

For both children and adults, the social and academic areas of life are highly evaluative. Not all situations however, are evaluative in the same sense. The social and academic self-concept of an individual is based on his or her history of evaluative feedback and one's self-related cognitions in each learning environment. Consequently, the focus is on one's competence in relation to others. When the socially anxious child from low socioeconomic background catastrophizes and overgeneralizes negative events, he or she may rely on immediate feedback from the social environment, expectations about events based on prior experiences and outcomes, and the anxious child's misperceptions of future dire consequences. Even prominent successes, or positive feedback in the past do not have a permanent effect because the vulnerable child believes that he or she will always fail in future situations and the consequences of such failure will be much more drastic and humiliating than any success could be (Beck, Emery, & Greenberg, 1985). Research consistently demonstrates that socially anxious individuals have a selective memory for negative interpersonal feedback (O'Banion & Arkowitz, 1977), and are overly sensitive to such feedback (Smith & Sarason, 1975). Socially anxious individuals from the higher socioeconomic classes may actively resist information that would disconfirm their negative self-images by selectively focusing on negative feedback, doubting the accuracy of positive feedback, and by attributing success to external factors.

As a consequence, formal thinking processes are impaired and the socially anxious child from lower socioeconomic classes may find it difficult to be objective about his or her negative self-appraisals. Given this, their self-attributions and self-evaluations will often be for failure. At the global level, these childrens' self-confidence is diminished and their personal sense of self-efficacy (expectation of success) is reduced.

An alternative explanation for the School and Social Anxiety interaction may be that the differences between the socially anxious children and non-socially anxious children on the Children's Negative Cognitive Error Questionnaire may be a function of the differences between the schools. Levels of social anxiety and the different schools may have interacted in causing children to catastrophize and overgeneralize about possible negative evaluation or criticism. It may be that the effect of

social anxiety on these negative cognitive errors varied as a function of the differences between the schools. For example, the social and academic environment varies between schools and the feedback and attitudes of one's teachers and competition from one's peers may have a direct effect on a child's self-concept and the likelihood of developing anxiety reactions in these situations.

The socioeconomic circumstances of the various schools may have an effect on the way in which socially anxious and non-socially anxious children evaluate future outcomes. The psychological problems of lower-class children have been suggested to be externalizing (delinquency), whereas the psychological problems of middle- to high-class children are often internalizing (anxiety disorders) (Santrock & Yussen, 1987). It has been proposed that on average socially anxious individuals belong to a higher social class and generally have a better education (Amies, Gelder, & Shaw, 1983; Solyom, Ledwidge, & Solyom, 1986). A study by Amies Gelder, & Shaw (1983) revealed that 33% of the socially anxious participants were from a higher social class than their parents, which may suggest that social anxiety may be partly the result of uncertainties related to social behaviour in 'higher' social classes. One can only speculate as to the effects, if any, socioeconomic circumstances have on the present study's results because the current study did not employ an objective measure of socioeconomic status. Socioeconomic circumstances needs to be taken into account in future research in this area.

Buss (1980) postulated that social anxiety or shyness results from experiences in childhood or adolescence that foster excessive social-evaluative concerns. This hypersensitivity to social-evaluative stimuli may be due to differences in childrearing practices between socioeconomic classes. Parenting practices that convey rejection to a child may instil a preoccupation with others' evaluative remarks and furthermore, a generalised fear of negative evaluation. Also a parenting practice that may foster fear of negative evaluation by placing excessive importance on proper grooming, dress, manners and so on may stem from a parent's concern about the opinion of others (e.g., relatives, neighbours, strangers) regarding appropriate behaviour of their children. That is, if parents repeatedly remind their children of how others are evaluating them, Buss contends that these admonitions may contribute to the development of social anxiety because the child seeks to avoid the attention and

evaluation of others. Other factors may include the degree to which parents encourage their child to be sociable.

The findings discussed to this point lend support to several aspects of Beck et al.'s (1985) model of anxiety. The model hypothesizes a link between social anxiety and biases or distortions in cognitive information-processing operations in socially anxious individuals. As a result of such distortions in information-processing, socially anxious individuals make self-defeating and distorted cognitions regarding themselves and others observation and evaluation of them in social situations.

Automatic Thoughts and Cognitions

Self-focused attention interrupts the actions of socially anxious individuals in social situations and provokes a subjective outcome assessment. This state of self-awareness in social situations leads non-socially anxious individuals to favourable and socially anxious individuals to unfavourable outcome expectancies. As a result non-socially anxious individuals will focus more effort on their performance, show more persistence, and obtain success while socially anxious persons will withdraw from the situation and be preoccupied with self-deprecatory ruminations. As a result they will probably experience failure (as they perceive it to be) in social situations. Beck and Clark (1988) contend that the socially anxious persons self-verbalizations, internal dialogue, and inhibitions reflect the content of their maladaptive schemata.

Social Interaction Self-Statement Test (SISST)

The thoughts of socially anxious individuals are dominated by statements and questions that appear in an automatic fashion. For example, Hartman (1983) has pointed out that socially anxious individuals become preoccupied with metacognition. That is, they engage in thoughts regarding their physiological arousal, others' perceptions of them as socially inadequate, inappropriately nervous, or psychologically inept. This excessive self-focus causes the socially anxious person to overestimate the degree to which other will notice their somatic symptoms, and underestimate their level of social skills and ability to accurately judge how others evaluate them. The assessment of cognitions

of fearful or anxious children has been relatively neglected by researchers and clinicians (Francis, 1988). This is unusual given the highly cognitive nature of certain phobias and anxiety disorders, particularly social anxiety of children and adolescents.

Socially anxious children are characterised by excessive self-focused attention in social situations (Smith, Ingram, & Brehm, 1983). It has been shown that socially anxious adults endorse a high frequency of negative self-statements (Glass, Merluzzi, Biever, & Larsen, 1982). Consistent with the cognitive model, socially anxious children reported more negative self-statements than non-socially anxious children. Of particular interest is the failure of positive or coping self-statements to correlate above the cut-off level of the SPAI. An explanation for this may be that the socially anxious participants in this sample differ from non-socially anxious children only with respect to the frequency of negative or inhibitory cognitions. Hartman (1983) suggested that intense social anxiety involves a comparable level of positive cognitions or thoughts as does low social anxiety. However, socially anxious children experience significantly more negative or inhibitory self-statements specific to social interactions, including self-deprecating attributions, fear of being negatively evaluated, negative self-evaluations, thoughts of incompetence, and so on. The distinction between socially anxious and non-socially anxious children may exist in their ability to interrupt such debilitating self-statements in social situations.

Schwartz and Garamoni (1986, cited in Kendall and Ingram, 1987) described a 'negative dialogue' as existing in dysfunctional psychological states. When functioning becomes impaired, two-thirds of cognitive thought contains negative statements and only one-third is dominated by positive thought. During states of severely impaired functioning negative cognitions exceed this two-thirds level and positive cognitions exist at a correspondingly low level. Stefanek, Ollendick, Baldock, Francis, and Yaeger (1987) examined children's inhibiting and facilitating self-statements in response to role-play situations in which the child was in conflict with, or had to initiate an interaction with a peer. Socially withdrawn children endorsed significantly more debilitating self-statements and fewer positive self-statements than their well-adjusted peers.

The present study found no significant difference in the frequency of positive self-statements across the two social anxiety groups. This is consistent with findings from other studies involving socially anxious adult participants (Stopa & Clark, 1993). One may speculate that particular types of positive self-statements may have been used more frequently by lower anxious participants. For example, non-socially anxious children may have used self-statements which minimized the importance of negative reactions and evaluations from others. Another possible reason for a nonsignificant relationship between social anxiety and positive self-statements found in the present study, might be lack of power due to the size of the sample used. It may also be possible that the Social Interaction Self-Statement Test is a measure of adult thoughts and although modified, these self-statements may not have been specific to the thoughts of children.

It appears that the thoughts, perceptions, and expectancies that are typical of socially anxious children make one aware of how they tend to approach social situations with maladaptive and conflicted cognitive processing of self-relevant social information. Hartman (1983) suggested that socially anxious individuals suffer from a 'selective attention deficit' which impairs their ability to participate effectively in social situations. That is, their excessive self-consciousness interferes with the attention that should be paid to other people and the social situation. Cheek and Melchior (1990) supported this theory by demonstrating that shy college women reported spending 33% of a 5-minute social interaction engaged in self-focus compared to non-shy individuals who reported spending approximately 20% of the time in self-focus. Furthermore, the content of the self-preoccupation of socially anxious women involved negative thoughts about making a poor impression and the possibility of negative evaluation.

Non-socially anxious person's self-perceptions are not dominated by a sense of incompetence however, the socially anxious individual is systematically thinking about and questioning his or her ability to perform or rather, his or her sense of incompetence. Each "what if" question carries the theme of an inability to handle or cope with the forthcoming situation causing the socially anxious individual to feel vulnerable. Thus, self-statement patterns bear some resemblance to a careful and reflective process of evaluation of one's self-worth. The socially anxious

individual's internal dialogue serves to maintain the uncertainty in any given social interaction and hence its anxiety-arousing qualities.

Expectations and Evaluations of Performance

Schwarzer (1986) suggested that self-focused attention gives way to a cognitive process where one's own coping ability is under scrutiny. Highly socially anxious individuals are self-centered and focused on self-evaluation and self-worry rather than on the situation task. The current findings demonstrated predicted differences in self-evaluative cognitions between socially anxious and non-socially anxious children. High socially anxious children reported more negative evaluative cognitions for both the mathematics test and the impromptu speech. These cognitions included unfavourable social comparisons, feelings of intense anxiety, and negative evaluations of one's competence. Furthermore, socially anxious and non-socially anxious children differed with respect to the frequency of positive evaluations, with non-socially anxious children reporting more thoughts of competence, mastery, and lower levels of anxiety than socially anxious children. In these respects, the cognitions of socially anxious children are similar to those of socially anxious adults (e.g., Beidel, Turner, & Dancu, 1985; Clark & Arkowitz, 1975; Stopa & Clark, 1993).

Beck, Emery, and Greenberg (1985) have suggested that the negative thoughts of socially anxious individuals actually bring about some of the feared impairments of performance. Findings from the current study showed that there were no significant differences in performance between socially anxious and non-socially anxious children on the mathematics test. There are three alternative interpretations of this finding. Firstly, the nonsignificant results may be a function of the nature of the study. More specifically, the sample was composed of a normal school population and the mathematics test procedure may have only elicited small amounts of anxiety. It may be possible that anxiety levels were too low to severely impair performance. Replication of the study with a socially anxious clinical population under naturalistic conditions would be beneficial in determining the extent of the relationship between social anxiety (as measured by the SPAI), and academic performance in children. Secondly, differences in mathematical ability between the various schools may have confounded the results of the mathematic test. And finally, this

discrepancy in self-efficacy may be a consequence of differences in perceptions of ability, not necessarily skill deficits.

A number of studies involving clinically severe socially anxious participants have suggested that social skills deficits are of less importance in the maintenance of social anxiety than once thought (Edelmann, 1985; Newton, Kindness, & McFadyen, 1983). Socially anxious persons experience anxiety in social situations because they believe they are socially incompetent, not necessarily because they lack the appropriate social skills in their behaviour repertoire. Halford and Foddy (1982) judged the skills deficit model as insufficient stating that a satisfactory social skill repertoire may be necessary, but not sufficient to master social difficulties. For example, a study by Curran, Wallander, and Fishetti (1977, cited in Halford & Foddy, 1982) examined heterosexual dating anxiety and found all socially unskilled participants were highly anxious in heterosexual interactions but not all highly skilled participants were low in anxiety. Halford and Foddy (1982) concluded that although social skills training can teach individuals to respond in a socially skilful way to difficult social interactions, these new behaviours do not always generalise to other social situations, suggesting simple skill deficits are not the only factor responsible for social anxiety.

Differences in attentional focus have also been implicated as causing social incompetence of socially anxious individuals (Hartman, 1983). Hartman postulated that socially anxious individual's performance in social situations is impaired as a result of their divided attention between external cues in the social situation and internal cues (self-defeative thinking and perceptions of autonomic arousal). In those same situations non-anxious individuals concentrate on the interpersonal interaction only. Glass and Shea (1986) concluded from their own studies that for the majority of participants, it appears social anxiety is more of a self-confidence issue, involving highly negative self-evaluations and expectations. Hartman (1983) argued that people who are socially anxious have too little confidence in their own merits as a person. Furthermore, Hartman suggested that excessive self-focusing and low self-esteem are the essential ingredients for social anxiety.

Yet there are those individuals who do show real deficits in social skills and seem to benefit from social skills training (Glass and Shea, 1986). As a consequence, the present study refutes the skills deficit hypothesis

and supports the cognitive hypothesis as socially anxious children in this sample, did not show signs of social skill deficits but rather, their perception or misperception of anticipated incompetence resulted in negative evaluations and crippling inhibitions.

Zatz and Chassin (1983) take note that previous research has doubted the use of low anxious participants as a basis for comparing the performance of highly anxious participants. Some authors (Galassi, Frierson, & Sharer, 1981; Wittmaier, 1976) have claimed that participants with low anxiety may be 'maladaptive' and show impaired performance because of low motivation. They concluded that moderately anxious participants represent a better functioning and much more practical comparison group. Results from the present study fail to support this theory as high socially anxious and low socially anxious children did not significantly differ in terms of their performance on the mathematics test. According to these results, low socially anxious children represent an appropriate comparison group in spite of prior speculation regarding their low motivation.

Interaction Effects

In two different settings where evaluation by others could be a cause for concern, the socially anxious children consistently endorsed significantly more negative evaluatory cognitions and more severe subjective distress than their non-socially anxious peers. Significant Social Anxiety and Time of Testing interactions were found for negative and positive evaluations of the mathematics test, and for negative evaluations of the impromptu speech. In light of the mathematics test, positive expectations and evaluations made by socially anxious children prior to the test declined even further after they had performed the task. In contrast, the positive self-evaluations made by the non-socially anxious children escalated even more after they had completed the mathematics test. Moreover, the negative evaluations made by socially anxious children regarding their own performance before the mathematic test increased even more so after they had accomplished the test. With regard to the children's performance on the impromptu speech, socially anxious children gave significantly more negative evaluations after they had completed the task than they had prior to beginning the speech. This is

consistent with findings from other research that continues to demonstrate socially anxious individuals expect their social behaviour will be inadequate and that they will be negatively evaluated by others (DePaulo, Kenny, Webb, & Oliver, 1987; Leary, Kowalski & Campbell, 1988).

Bandura's (1982) self-efficacy theory has been applied to social anxiety as a result of the consistency of such findings. Self-efficacy is the confidence one has in one's ability to act successfully in specific situations (Bandura, 1982). The theory of self-efficacy reflects an individual's expectation that he or she can perform a particular task. According to this model, socially anxious children tend to have both low self-efficacy expectancies and low outcome expectancies (Maddux, Norton, & Leary, 1988). That is, socially anxious children systematically doubted their ability going into the task and their perceptions of lack of ability, fear of failure, fear of negative evaluation, heightened vulnerability, and so on, have convinced them that they would not be as good as their peers.

The pattern of results provide support for the major hypothesis that socially anxious participants systematically underestimate positive aspects of their performance and overestimate negative aspects more than non-socially anxious participants. The predicted differences were significant for social anxiety and performance. High socially anxious participants attributed more social anxiety and less social skill and ability to their performance. There are several possibilities to account for the differences between the socially anxious and non-socially anxious groups in their self-evaluations. One of these possibilities concerns the standards for self-evaluation. The observed differences between the two groups may be due to the socially anxious children using more stringent standards for their own performance than did non-anxious children. To the extent that socially anxious children are using much more severe or stringent standards for self-evaluations, it follows that they would tend to be more negative regarding their own performance than say external observations of their performance. A study by Terbovic (1973) supports this proposal, however other studies have proved otherwise (e.g., Wallace & Alden, 1991). Terbovic (1973), using an achievement task (anagram solving task) demonstrated that males with overly negative self-evaluations had significantly higher standards for achievement success than their counterparts with more positive self-evaluations.

A further possibility that may account for the differences in self-evaluations found between the socially anxious and non-socially anxious children in the current study may derive from the possibility of selective attention and selective memory. This is particularly important with respect to positive versus negative information about oneself, especially one's social performance. For example Mischel, Ebbesen, and Zeiss (1973) demonstrated that participants spent more time selectively attending to information concerning their personal assets after an episode of success than they did after a failure experience. Mischel, Ebbesen, and Zeiss performed a second unpublished experiment (cited in Clark, & Arkowitz, 1975) in which they found that participants accurately recalled more of their positive personal resources than their drawbacks when they expected to succeed than when they expected to fail on an ability test.

Bearing in mind that socially anxious and non-socially anxious participants did not significantly differ in their social performance on the mathematics test and supposing that they used similar standards for successful performance, the differences observed in the self-evaluations may be a consequence of selective attention and/or remembering of negative aspects of their performance on the part of socially anxious children. In contrast, non-socially anxious children would selectively attend to and remember more positive aspects of their performance (Clark & Arkowitz, 1975). Beck (1985) hypothesized that anxious individuals have greater access to negative memories of previous performance than to positive ones. Even significant successes in the past have no permanent effect because the 'vulnerable' individual always believes he or she will eventually fail and the consequences of such failure will be drastic and humiliating. Hence, the socially anxious child's selective recall may be a consequence of the 'vulnerability' mode (Beck & Emery, 1985). Generally speaking, the socially anxious individual is in a 'no win' situation with an image based either on perceived inadequate performances in the past or on a vision of how he or she will appear if they fail.

By and large, the results of the current study like similar findings from other studies (Clark & Arkowitz, 1975) suggest both the socially anxious children and non-socially anxious children have the appropriate social skills for successful performance in their repertoire and their abilities are reflected in their overt social performance. The accompanying anxiety and avoidance that the socially anxious person experiences in

social situations may well be brought about by their excessive self-focused attention and self-evaluation. The potential role of self-evaluation may have a possible mediating effect on social anxiety regardless of the actual level of social skills and abilities. Even though inadequacies in social skills may be the primary factor in some cases, the present results lend support to social-evaluative processes which may also be just as important, if not more so.

So far, the results of the present study provide evidence that socially anxious children under social-evaluative threat demonstrate increases in cognitive activity that reflects concern over evaluations of others. Socially anxious individuals resist information that would disconfirm their negative self-images by attributing success to external factors, selectively focusing on negative feedback, and doubting the accuracy of positive feedback. For example, socially anxious children tended to perceive their performance as deficient even when it was not. They think they are continually being observed by other people even when they are not and their self-standards of their performance are perfectionistic. In addition, they recall past negative encounters but forget or ignore past positive performances and accept negative feedback at the expense of positive feedback from others. They blame themselves for negative social consequences and do not take credit for positive outcomes. Thus the 'cautious' or 'protective' self-presentational strategies adopted by socially anxious individuals make sense for a person who is preoccupied with worry and self-doubt.

Children's Attributional Style Questionnaire(CASQ)

Total scores on the measure assessing attributional style in the current study were related to social anxiety, consistent with cognitive theories of social anxiety. The socially anxious children showed attributional styles somewhat parallel to those often displayed by depressives. Children who scored higher on the Social Phobia and Anxiety Inventory displayed self-deprecating attributions on the Children's Attributional Style Questionnaire scale compared with participants who scored significantly lower on the Social Phobia and Anxiety Inventory scale. High socially anxious children gave significantly more negative attributions for explaining the outcome of negative events

than their non-socially anxious peers. More precisely, socially anxious children made more stable attributions for negative consequences of events whereas non-socially anxious children attributed significantly more global explanations for positive events.

Recent advances in attribution theory suggest that socially anxious individuals, similar to depressed and lonely people, consistently explain their successes and failures in a self-defeating manner. Many authors have described them as possessing a 'maladaptive' attributional style. Recent research continues to support the significance of maladaptive attribution styles of social anxiety (Anderson & Arnoult, 1985; Leary, 1986). These studies provide encouragement for Zimbardo's (1977) suggestion that when shy or socially anxious individuals confront social difficulties they systematically blame themselves whereas non-shy or non-socially anxious persons blame the social situation.

Several studies have examined the connections between social anxiety and attributional processes finding that socially anxious individuals as compared to non-socially anxious individuals are more likely to make self-protective, internal, and stable attributions for their social distress (Arkin, Appleman, & Berger, 1980; Girodo, Dotzenroth, & Stein, 1981; Johnson, Petzel, & Johnson, 1990). Results on the attribution dimensions for the current study were less supportive. Only the role of attributions to stable causes were supported by socially anxious children. An important aspect of attributional style is the way in which responsibility for the outcome of an event is allocated. Attributions to long-lasting, pervasive causes for negative outcomes rather than temporary, situational factors are common for socially anxious children. Socially anxious children maintain that negative outcomes of social encounters are expected to remain the same over time and do not expect these consequences to change.

In terms of attribution theory, ascribing the outcome of a task to stable causes (ability and task difficulty) decreases the expectancy for success following failure or a negative outcome for socially anxious individuals. Low expectancy for success contributes to poor self-confidence (Feather, 1969). In terms of self-confidence and risk-taking in social situations, attribution theory predicts that social outcomes that confirm one's expectations would accentuate levels of self-confidence whereas, social outcomes that disconfirm one's expectations would make one worry or

cynical about succeeding in social interactions (Girodo, Dotzenroth, & Stein, 1981). Generally socially anxious individuals do not take credit for their own performance and as a result, may not feel as competent as their non-socially anxious counterparts.

Social psychologists have repeatedly demonstrated that people tend to take more responsibility for positive rather than negative events, a phenomenon known as the 'self-serving bias' (Miller & Ross, 1975). Consistent with attribution theory, non-socially anxious children in the present study made more global attributions for successful outcomes of events than their socially anxious peers. The generalizability of these self-enhancing tendencies to all situations may be a form of adjustment, or reflect part of the active coping style of children who do not become anxious in social situations. Feelings of competence are likely to be generalized to subsequent tasks. This contradicts Anderson and Arnoult's (1985) assertion that the stability and globality dimensions prove to be of little value when assessing social anxiety.

Socially anxious individuals who are preoccupied with worry and self-doubt employ social strategies such as a protective style of self-presentation to create a desirable impression on others (Schlenker & Leary, 1982). They choose to try and get along with others by conforming to majority opinion, change their views to coincide with those of an authority figure, and avoid disclosing any personal information pertaining to oneself (Schlenker & Leary, 1982). Anxious participants in the present study similar to findings from other studies examining attribution patterns (Teglasi & Hoffman, 1982; Girodo, Dotxenroth, & Stein, 1981) demonstrated that to some extent, socially anxious children reversed the self-serving bias and took more responsibility for negative social outcomes and less responsibility for positive social outcomes than non-anxious participants. Socially anxious individuals generally report significantly more modest attributions (attributing greater causality to themselves for failure than for success) when they anticipate close scrutiny of their attributions and behaviour (Arkin, Appleman, & Burger, 1980). The self-punishing tendencies of socially anxious children is evident through their repeated criticisms about themselves and their attributed responsibility for social failure.

To the extent that individual attributions can be expected to change with the type of situation, the natural attributional style of the individual

may also be manipulated by changes in situations (Anderson & Arnoult, 1985). Differences in attributional style may occur as a result of differences in situations such as success versus failure situations, or interpersonal versus non-interpersonal situations. The attributional style of socially anxious individuals has been reported to be situation-specific (Teglasi & Hoffman, 1982). This study illustrates the need to know more about the cognitive effects of success as well as failure experiences for participants differing in social anxiety and in attributional style.

The similarity of attributional styles of the current study's socially anxious participants to those recognized in depressives raises some speculation. It may be possible that social anxiety or to some extent shyness in childhood, is an indication of risk for depression. Social anxiety in childhood may be a developmental process to the development of depression in early or late adulthood. To this extent however, we cannot presume that all socially anxious children or adults are predisposed to become depressed.

In general the socially anxious persons self-concept consists of low self-esteem, low expectancies for success, anxious excessive self-focus, extreme self-consciousness, worry about receiving negative evaluations from others, preference for adopting a protective self-presentation style, self-blaming causal attributions, selective memory for negative self-relevant information, which when combined form unrealistically harsh self-perceptions. In consideration of the numerous cognitive tendencies of socially anxious children, it is not surprising that they judge themselves more harshly than others judge them. The current results support the notion that negative and self-deprecatory cognitions are likely to accompany social anxiety reactions however, the causal relationship between the two remains unclear. Consistent with the present study, a variety of cognitive and cognitive-behavioural theorists suggest that maladaptive cognitions cause social anxiety to escalate (Beck, 1976; Ellis, 1962; Mahoney, 1974; Meichembaum, 1977). On the other hand, it may be possible that cognitions and cognitive changes are the product of changes in anxiety experienced before or during social interactions rather than variables primarily concerned with the aetiology of social anxiety (Borkovec, 1978).

To some extent, social anxiety does offer some rewards and benefits. Snyder and Smith (1986) demonstrated from their own studies with shy individuals (Snyder, Smith, Augelli, & Ingram, 1985) that shyness may function as a self-handicapping strategy to protect one's self-esteem in evaluative situations or from external threats to one's image.

Gough and Thorne (1986) demonstrated that social anxiety or more specifically shyness, is not necessarily a negative trait or characteristic. The negative stereotype is based primarily on self-reports of fears, anxieties, and doubts concerning personal worth and competency which automatically lead observers to label shy persons as weak, timid, and unambitious. To the extent that there is an observed negative side to shyness, there is an equally positive side to this characteristic. Among the unrecognized assets of the shy person lay the attributes of modesty, patience, equanimity, and self-control coupled with the fundamental symptoms of taciturnity and caution (Gough & Thorne, 1986). The merit of these positive characteristics of social anxiety warrants further research.

Problems and Prospects

The findings of the present study have highlighted several areas which need to receive further research attention. Clearly, further research is needed to examine the specific relationship between social anxiety and childhood. Further, there is a need to examine the link between cognitive information-processing and social anxiety, as well as the role of self-defeating cognitions and inhibitions.

It seems unlikely at this stage that one all-encompassing theory of anxiety will be developed which is able to explain and predict all types of anxiety in all situations. It is therefore important for researchers to specify the type of anxiety they are investigating, and in which type of population this anxiety will typically be found.

While the operation of the information-processing system may be related to clinical social anxiety, it might not be an important causal factor. For this reason, further attempts to pinpoint cognitive factors associated with the aetiology of clinically severe social anxiety will continue to be fraught with difficulties.

The issue of sample size needs to be taken into account in future research in this area. The sample size of the socially anxious and non-socially anxious groups in the present study were small and replication with a larger sample size is advisable. In addition, the role of socioeconomic circumstances needs to be objectively measured. To provide support for Beck's theory, all aspects of the information-processing approach should be objectively measured including the role of the schemata. Despite this, the results of this study represent one of the first attempts to examine the relationship between social anxiety and the cognitive information-processing operations in children.

The present findings have implications for Beck's theory of adult anxiety. Many studies of adult social anxiety have not examined the specific cognitive distortions in information-processing measured in the present study. Nor have they followed up children into adulthood. Thus, one may only speculate that the children who tended to more strongly endorse the negative cognitions measured in the current study may be more vulnerable to suffering severe social anxiety later in adulthood. This however, does not necessarily mean that Beck's (1976) cognitive therapy is also applicable to socially anxious children but the results of the present study suggest this may be worthy of more direct investigation.

The results also provide important implications for children in schools. The negative views of the socially anxious children regarding their cognitive abilities suggests the need for intervention aimed at cognitive restructuring and self-esteem building. In addition, a child's overall cognitive level and age should be considered when the level of social anxiety is assessed. Further research in this area is clearly needed that highlights the self-perceptions of socially anxious school-age children.

Conclusion

Finally, the present study adds to the growing body of literature which suggests that cognitive factors are associated with subjective feelings of anxiety within social situations. The present study sought to specify the relations between social anxiety and the cognitive information-processing operations of children. To some extent it was successful. Socially anxious children displayed distortions in information-processing and showed an attentional bias towards threat-related information in social situations. In addition, socially anxious children reacted to negative or ambiguous situations with self-defeating cognitions and inhibitions. The results of the present study also suggested that children may experience social anxiety not because they are unable to behave in a socially competent manner per se, but it may be because they believe that they are socially incompetent. Thus, one must always look beyond the superficial and obvious reasons and entertain the possibility that motives exist which cannot be accurately recognised or predicted, given the complexity and uniqueness of each individual.

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Appendix

I Social Phobia and Anxiety Inventory (SPAI)
(Turner, Dancu, & Beidel, 1984)

II Definitions for the Social Phobia and Anxiety Inventory

III Children's Negative Cognitive Error Questionnaire (CNCEQ)
(Leitenberg, Yost, & Carroll-Wilson, 1986)

IV Social Interaction Self-Statement Test (SISST)
(Glass, Merluzzi, Biever, & Larsen, 1982)

V Children's Attributional Style Questionnaire (CASQ)
(Kaslow, Tanenbaum, & Seligman, 1978)

VI Social Interaction Rating Scale (SIRS)
(Hops, Fleishman, Guild, Paine, Street, Walker, & Greenwood, 1978)

VII Performance Questionnaire
(Zatz & Chassin, 1983)

Appendix I

Social Phobia and Anxiety Inventory (SPAI)
(Turner, Dancu, & Beidel, 1984)

Name: _____
Age: _____
Boy: _____ **Girl:** _____

Below is a list of behaviours that may or may not be relevant for you. Based on your personal experience, please indicate how frequently you experience these feelings and thoughts in social situations. A social situation is defined as a gathering of two or more people. For example: a meeting; a class; a party; a restaurant; talking with one other person or group of people, etc. FEELING ANXIOUS IS A MEASURE OF HOW TENSE, NERVOUS OR UNCOMFORTABLE YOU ARE DURING SOCIAL GATHERINGS. Please use the scale listed below and circle the number which best describes how often you experience these responses.

There are no right or wrong answers, so always pick the response that seems the most likely to you.

If you have a question, please raise your hand and I will come to your seat to answer it. Since this is a research study it is important that you answer honestly. Nobody else will be allowed to see your answers. Any questions?

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

1. I feel anxious when entering social situations where there is a small group 1 2 3 4 5 6 7

2. I feel anxious when entering social situations where there is a large group 1 2 3 4 5 6 7

3. I feel anxious when I am in a social situation and I become the centre of attention 1 2 3 4 5 6 7

4. I feel anxious when I am in a social situation and I am expected to engage in some activity 1 2 3 4 5 6 7

5. I feel anxious when making a speech in front of an audience 1 2 3 4 5 6 7

6. I feel anxious when speaking in a small informal meeting 1 2 3 4 5 6 7

7. I feel so anxious about attending social gatherings that I avoid these situations 1 2 3 4 5 6 7

8. I feel so anxious in social situations that I leave the social gathering 1 2 3 4 5 6 7

9. I feel anxious when in a small gathering with:
   - strangers 1 2 3 4 5 6 7
   - authority figures 1 2 3 4 5 6 7
   - opposite sex 1 2 3 4 5 6 7
   - people in general 1 2 3 4 5 6 7

10. I feel anxious when being in a large gathering with:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

11. I feel anxious when in a restaurant or take-away with:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

12. I feel anxious and do not know what to do when in a new situation
with:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

13. I feel anxious and I do not know what to do when in a situation
involving confrontation with:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

14. I feel anxious and I do not know what to do when in an embarrassing situation with:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

15. I feel anxious when discussing personal feelings with:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

16. I feel anxious when saying my opinion to:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

17. I feel anxious when talking about school work with:
strangers..... 1 2 3 4 5 6 7
authority figures..... 1 2 3 4 5 6 7
opposite sex..... 1 2 3 4 5 6 7
people in general..... 1 2 3 4 5 6 7

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

18. I feel anxious when approaching and/or starting a conversation with:
    - strangers..... 1 2 3 4 5 6 7
    - authority figures..... 1 2 3 4 5 6 7
    - opposite sex..... 1 2 3 4 5 6 7
    - people in general..... 1 2 3 4 5 6 7

19. I feel anxious when having to interact for longer than a few minutes with:
    - strangers..... 1 2 3 4 5 6 7
    - authority figures..... 1 2 3 4 5 6 7
    - opposite sex..... 1 2 3 4 5 6 7
    - people in general..... 1 2 3 4 5 6 7

20. I feel anxious when drinking and/or eating in front of:
    - strangers..... 1 2 3 4 5 6 7
    - authority figures..... 1 2 3 4 5 6 7
    - opposite sex..... 1 2 3 4 5 6 7
    - people in general..... 1 2 3 4 5 6 7

21. I feel anxious when writing or typing in front of:
    - strangers..... 1 2 3 4 5 6 7
    - authority figures..... 1 2 3 4 5 6 7
    - opposite sex..... 1 2 3 4 5 6 7
    - people in general..... 1 2 3 4 5 6 7

22. I feel anxious when speaking in front of:
    - strangers..... 1 2 3 4 5 6 7
    - authority figures..... 1 2 3 4 5 6 7
    - opposite sex..... 1 2 3 4 5 6 7
    - people in general..... 1 2 3 4 5 6 7

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

23. I feel anxious when being criticized or rejected by:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

24. I attempt to stay away from social situations where there are:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

25. I leave social situations where there are:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

26. Before entering a social situation I think about all the things that can go wrong. The types of thoughts I have are:
    - Will I be dressed properly? 1 2 3 4 5 6 7
    - What will I do if no-one speaks to me? 1 2 3 4 5 6 7
    - If there is a long silence in the conversation what can I talk about? 1 2 3 4 5 6 7
    - People will notice how anxious I am 1 2 3 4 5 6 7

27. I feel anxious before entering a social situation 1 2 3 4 5 6 7

28. My voice goes or changes when I am talking in a social situation 1 2 3 4 5 6 7

29. I am not likely to speak to people until they speak to me 1 2 3 4 5 6 7

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

30. I experience annoying thoughts when I am in a social setting.
    For example:
    I wish I could leave and avoid the whole situation. 1 2 3 4 5 6 7
    If I mess up again I will really feel silly. 1 2 3 4 5 6 7
    I wonder what other people are thinking about me. 1 2 3 4 5 6 7
    Whatever I say will probably sound stupid. 1 2 3 4 5 6 7

31. I experience the following before entering a social situation:
    sweating. 1 2 3 4 5 6 7
    frequent urge to go to the toilet. 1 2 3 4 5 6 7
    rapid heart beat. 1 2 3 4 5 6 7

32. I experience the following in a social situation:
    sweating. 1 2 3 4 5 6 7
    blushing. 1 2 3 4 5 6 7
    shaking. 1 2 3 4 5 6 7
    rapid heart beat. . . . . .
    frequent urge to go to the toilet. 1 2 3 4 5 6 7

33. I feel anxious when I am home alone. 1 2 3 4 5 6 7

34. I feel anxious when I am in a strange place. 1 2 3 4 5 6 7

35. I feel anxious when I am on any form of public transportation.
    For example, bus, train, airplane. 1 2 3 4 5 6 7

36. I feel anxious when crossing the street. 1 2 3 4 5 6 7

37. I feel anxious when I am in crowded public places (e.g. stores, church, movies, restaurants, etc). 1 2 3 4 5 6 7

Never	Very Infrequent	Infrequent	Sometimes	Frequent	Very Frequent	Always
1	2	3	4	5	6	7

38. Being in large open spaces makes me feel anxious. 1 2 3 4 5 6 7

39. I feel anxious when I am in enclosed places (elevators, tunnels, etc). 1 2 3 4 5 6 7

40. Being in high places makes me feel anxious (e.g. tall buildings). 1 2 3 4 5 6 7

41. I feel anxious when waiting in a long line. 1 2 3 4 5 6 7

42. There are times when I feel like I have to hold on to things because I am afraid I will fall. 1 2 3 4 5 6 7

43. When I leave home and go to different public places, I go with a family member or friend. 1 2 3 4 5 6 7

44. I feel anxious when riding in a car. 1 2 3 4 5 6 7

45. There are certain places I do not go to because I may feel trapped. 1 2 3 4 5 6 7

Appendix II

Definitions

Here is a list of words that are in the questionnaire you have in front of you. The meaning of each word has been listed to help you understand some of the more difficult words. If you have a problem with some of the words, please raise your hand and I will come to your seat to help you.

1 =Never = not at all, not ever, absolutely not.
2 =Very Infrequent = not usually; very rarely almost never.
3 =Infrequent = not that often, but occasionally.
4 =Sometimes = now and then.
5 =Frequent = often.
6 =Very frequent = very often, nearly almost always.
7 =Always = all the time.

To feel anxious = how nervous or uncomfortable you are during social situations.

Social Situation = a gathering of 2 or more people, e.g. a meeting, a class, a party, having a conversation with one person or a group of people.

Small group/gathering = less than 10 people **(see Question 1 & 9)**.

Large group/gathering = more than 20 people **(see Question 2 & 10)**.

Engage in some activity = to take part in some task, work or activity **(see Question 4)**.

Avoid = to stay away from something or someone **(see Question 7)**.

Authority Figure = someone in charge, e.g. parents, teachers, headmasters, police.

Opposite sex = a girl if YOU are a boy or,
a boy if YOU are a girl.
People in General = people you see and meet everyday.

Confrontation = meeting or talking or having a conversation with someone face to face **(see Question 13).**

Interact = to talk with or play with someone **(see Question 19).**

Criticized = when someone finds faults or mistakes with you or your work **(see Question 23).**
Rejected = when someone does not believe you or accept you for who you are**(see Question 23).**

Attempt = try **(see Question 24).**

Enclosed places = when you are shut in or fenced in some place like a tunnel, a small room, a lift, **(see Question 39).**

Appendix III

Children's Negative Cognitive Error Questionnaire (CNCEQ) (Leitenberg, Yost, & Carroll-Wilson, 1986)

Name: _____

Age: _____

Boy: _____ **Girl:** _____

Instructions

This questionnaire describes a number of situations that might happen to kids. Each situation is followed by a thought that a kid in that situation might have. This thought is in "quotation marks". We want to know how similar that thought is to what you might think in that situation.

Please read each situation and imagine that it is happening to you, even if it never has in the past. Then read the thought which is in "quotations". Circle the statement underneath each thought that best describes how similar that thought is to how you would think in that situation.

As an example let's read this:

A. You are the goalie for your soccer team. The game ends in a 1-1 tie. After the game you hear one of your teammates say that your team should have won today. You think, "He/She thinks it's my fault we didn't win."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

If the thought ("He/She thinks it's my fault we didn't win.") was somewhat like the way you would think in that situation, you would circle:

somewhat like I would think

B. You see two of your friends talking together at lunchtime. As you walk towards them, they go over to the softball field and start playing catch. You think, "Maybe they're mad at me about something."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

If the thought ("Maybe they're mad at me about something.") was a lot like the way you would think in that situation, you would circle:

a lot like I would think

If you have a question, please raise your hand and I will come to your seat to answer it. Since this is a research study it is important that you answer honestly. Nobody else will be allowed to see your answers. Any questions? Please be certain to put your name at the top of this page and then turn to the first question.

1. You invite one of your friends to stay overnight at your house. Another one of your friends finds out about it. You think, "He/She will be real mad at me for not asking them and never want to be my friend again."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

2. Your class is having 4-person relay races in P.E. class. Your team loses. You think, "If I had just been faster we would not have lost."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

3. You are trying out for the school softball team. You get up four times and get two hits and make two outs. You think, "What a lousy practice I had."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

4. Your team loses a spelling contest. The other team won easily. You think, "If I were smarter, we wouldn't have lost."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

5. Some of your friends have asked you if you're going to try out for the school soccer team. You tried out last year but did not make it. You think, "What's the use of trying out, I couldn't make it last year."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

6. You call one of the kids in your class to talk about your math homework. He/She says, "I can't talk to you now, my father needs to use the phone." You think, "They didn't want to talk to me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

7. You and three other students completed a group science project. Your teacher did not think it was very good and gave your group a poor grade. You think, "If I hadn't done such a lousy job, we would have gotten a good grade."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

8. Whenever it is someone's birthday in your class, the teacher lets the student have a half hour of free time to play a game with another student. Last week it was one of your friend's birthday and they picked someone else. Now another of your friends is going to get to choose someone. You think, "They probably won't pick me either."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

9. Your softball team is having practice. The coach tells you he would like to talk to you after practice. You think, "He's not happy with how I'm doing and doesn't want me on the team anymore."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

10. You went to a party with one of your friends. When you first got there your friend hung around with some other kids instead of you. Later you and your friend decide to stop at his/her house for a snack before you go home. Later that night you think, "My friend didn't seem to want to hang around with me tonight."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

11. You forgot to do your spelling homework. Your teacher tells the class to hand them in. You think, "The teacher is going to think I don't care and I won't pass."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

12. You were having a good day in school up until the last period when you had a math quiz. You did poorly on the quiz. "School is a drag, what a waste of time."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

13. You play basketball and score five baskets but missed two real easy shots. After the game you think, "I played poorly."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

14. Last week you had a history test and forgot some of the things you had read. Today you are having a math test and the teacher is passing out the test. You think, "I'll probably forget what I studied just like last week."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

15. You spent the day at your friend's house. The last hour before leaving you were really bored. You think, "Today was no fun."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

16. You are taking skiing lessons. The instructor tells the class that he does not think people are ready for the steep trails yet. You think, "If I could only learn to ski faster, I wouldn't be holding everyone up."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

17. Your class is starting a new unit in math. The last one was really hard. When it's time for math you think, "That last stuff was so hard I just know I'm going to have trouble with this too."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

18. You just started a part-time job helping one of your neighbours. Twice this week you were not able to go skating with your friends because of having to work. As you see your friends leaving to go skating, you think, "Pretty soon they won't ever want to do anything with me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

19. Last week one of the kids in your class had a party and you weren't invited. This past week you heard another student in your class telling someone he was thinking of getting some kids together to go to a movie. You think, "It'll be just like last week, I won't be asked to go."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

20. You did an extra assignment. Your teacher tells you that he would like to talk to you about it. You think, "He thinks I did a lousy job on my assignment and is going to give me a bad grade."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

21. You're with two of your friends. You ask if they would like to go to a movie this week-end. They both say they can't. You think, "They probably just don't want to go with me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

22. Your cousin calls you to ask if you'd like to go on a long bike ride. You think, "I probably won't be able to keep up and people will make fun of me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

23. Your team has just lost in a spelling contest. You were the last one up for your team and had spelled four words right. The last word was "excellent" and you got it wrong. When you sit down you think, "I'm no good at spelling."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

24. Last week you played softball and struck out twice. Today some kids from your class ask you to play soccer. You think, "There's no sense playing, I'm no good at sports."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

Appendix IV

Social Interaction Self-Statement Test
(SISST)
(Glass, Merluzzi, Biever, & Larsen, 1982)

Name: _____

Age: _____

Boy: _____ **Girl:** _____

Instructions

We are interested in the thoughts children have when they are in the company of other people. Listed on the next page is a variety of thoughts that pop into peoples' heads at some time before, during and after a situation that involves being with other people or talking to them. Please read each thought carefully and decide how often you may have been thinking a similar thought before, during and after you talked with them.

Circle the number from 1 to 5 for each thought where:
1 = hardly ever had the thought
2 = rarely had the thought
3 = sometimes had the thought
4 = often had the thought
5 = very often had the thought

1. When I can't think of anything to say to people I can feel myself getting very worried.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

2. I can usually talk to other people pretty well.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

3. I hope I don't make a fool of myself.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

4. I'm beginning to feel more relaxed.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

5. I'm really afraid of what other people think of me.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

6. No worries, no fears.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

7. I'm really scared.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

8. The others' probably won't be interested in me.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

9. Maybe I can make them more relaxed by talking about something.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

10. Instead of worrying I can figure out how best to get to know them.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

11. I'm not too comfortable meeting new people so things are bound to go wrong.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

12. So what, the worst that can happen is that they won't like me.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

13. They may want to talk to me as much as I want to talk to them.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

14. This will be a good opportunity.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

15. If I blow this conversation, I'll really feel silly.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

16. What I say will probably sound stupid.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

17. What do I have to lose? It's worth a try.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

18. This is an awkward situation but I can handle it.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

19. Wow - I don't want to do this.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

20. It would hurt me if they didn't respond.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

21. I've just got to make myself look good to them or I'll feel terrible.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

22. I'm such a shy person.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

23. I'll probably "bomb out" anyway.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

24. I can handle anything.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

25. Even if things don't go well it's not a disaster.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

26. I feel awkward and dumb; they're sure to notice.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

27. We probably have a lot in common.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

28. Maybe we'll hit it off real well.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

29. I wish I could leave and keep away from the whole situation.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

30. Ah! Why not give it a try - there's nothing to lose.

1	2	3	4	5
hardly ever had the thought	rarely had the thought	sometimes had the thought	often had the thought	very often had the thought

Appendix V

Children's Attributional Style Questionnaire (CASQ) (Kaslow, Tanenbaum, & Seligman, 1978)

Name: _____

Age: _____

Boy: _____ **Girl:** _____

Instructions

Here are some situations. I want you to try really hard to imagine that these situations just happened to you. After each situation is presented, two possible reasons for why the situations might have happened are given. I want you to choose the most likely reason to explain why the situation happened to you.

Sometimes both of the reasons may sound true, and sometimes both may sound false, and, you may never have been in some of these situations. But even so, I want you to pick the reason that seems to explain why the situation happened to you.

There are no right answers and no wrong answers, so always pick the reason that seems the most likely to you.

Circle either "**A**" or "**B**" for each question. Do you have any questions before we begin?

1. You get an "A" on a test.

   A. I am smart.
   B. I am good in the subject that the test was in.

2. You go on a vacation with a group of people and you have fun.

   A. I was in a good mood.
   B. The people I was with were in good moods.

3. Your pet gets run over by a car.

   A. I don't take good care of my pets.
   B. Drivers are not cautions enough.

4. Some kids that you know say that they do not like you.

   A. Once in a while people are mean to me.
   B. Once in a while I am mean to other people.

5. You get very good grades.

   A. School work is simple.
   B. I am a hard worker.

6. A good friend tells you that he/she hates you.

   A. My friend was in a bad mood that day.
   B. I wasn't nice to my friend that day.

7. You fail a test.

   A. Teachers make hard tests.
   B. Sometimes teachers make hard tests.

8. A person steals money from you.

   A. That person is dishonest.
   B. People are dishonest.

9. Your parents praise something that you make.

A. I am good at making some things.
B. My parents like some things I make.

10. You break a glass.

A. I am not careful enough.
B. Sometimes I am not careful enough.

11. You do a project with a group of kids and it turns out badly.

A. I don't work well with the people in the group.
B. I never work well with a group.

12. You make a new friend.

A. I am a nice person.
B. The people that I meet are nice.

13. You have been getting along well with your family.

A. I am easy to get along with when I am with my family.
B. Once in awhile I am easy to get along with when I am with my family.

14. You put a hard puzzle together.

A. Sometimes I am good at putting puzzles together.
B. Sometimes I am good at putting things together.

15. You get a bad grade in school.

A. I am stupid.
B. Teachers are unfair graders.

16. You walk into a door and you get a bloody nose.

A. I wasn't looking where I was going.
B. I have been careless lately.

17. You have a messy room.

A. I did not clean my room that day.
B. I usually do not clean my room.

18. Your mother makes you your favourite dinner.

A. There are a few things that my mother will do to please me.
B. My mother likes to please me.

19. A team that you are on loses a game.

A. The team members don't play well together.
B. That day the team members didn't play well together.

20. You do not get your chores done at home.

A. I was lazy that day.
B. Many days I am lazy.

21. You go to an amusement park and you have a good time.

A. I usually enjoy myself at amusement parks.
B. I usually enjoy myself.

22. You go to a friend's party and you have fun.

A. Your friend gives good parties.
B. Your friend gave a good party that day.

23. You have a substitute teacher and she likes you.

A. I was well behaved during class that day.
B. I am almost always well behaved during class.

24. You make your friends happy.

A. I am a fun person to be with.
B. Sometimes I am a fun person to be with.

Appendix VI

Social Interaction Rating Scale (SIRS) (Hops, Fleishman, Guild, Paine, Street, Walker, & Greenwood, 1978)

Child's Name: _____ Teacher: _____
School: _____ Grade: _____
Date: _____

1. Verbally responds to a child's initiation.

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

2. Engages in long conversations (more than 30 seconds).

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

3. Shares laughter with classmates.

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

4. Spontaneously contributes during a group discussion.

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

5. Volunteers for "show and tell."

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

6. Freely takes a leadership role.

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

7. Spontaneously works with a peer(s) on projects in class.

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

8. Verbally initiates to a peer(s).

not descriptive or true			moderately descriptive or true		very descriptive or true	
1	2	3	4	5	6	7

Appendix VII

Performance Questionnaire
(Zatz & Chassin, 1983)

Compared to the other kids in your class, how well do you expect to do on the exercises.

On a scale from 1 to 4 rate your performance compared to the other kids in your class.

1. I do well on tests like this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

2. Tests like this are harder for me than the others.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

3. I'm bright enough to do this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

4. My grade will be lower than the other kids.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

5. I will do better on this than the others.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

6. My grade will be higher than the other kids.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

7. This test is easy for me to do.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

8. I don't do well on tests like this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

9. I am relaxed when I take tests like this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

10. I'm doing poorly on this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

11. I'm doing worse than the others on this.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4

12. Tests like this make me nervous.

Definitely not	Probably not	Probably so	Definitely so
1	2	3	4